Exercise training modalities in patients with type 2 diabetes mellitus: a systematic review and network meta-analysis

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Appendix 1 Search strategies PubMed:

(((((("Diabetes Mellitus, Type 2"[Mesh]) OR "Diabetes Mellitus"[Title/Abstract]) OR
NIDDM[Title/Abstract] OR MODY[Title/Abstract] OR T2DM[Title/Abstract] OR T2D[Title/Abstract]
OR "non-insulin* depend*"[Title/Abstract] OR "noninsulin* depend*"[Title/Abstract] OR "non
insulindepend*"[Title/Abstract] OR noninsulindepend*[Title/Abstract] AND (("Exercise Therapy"[Mesh])
OR (("muscle strength"[Title/Abstract] OR "muscle strengthening"[Title/Abstract] OR "musclestrengthening"[Title/Abstract] OR "weight lifting"[Title/Abstract] OR weight-lifting[Title/Abstract] OR
"weight bearing"[Title/Abstract] OR weight-bearing[Title/Abstract] OR "weight training"[Title/Abstract]
OR "circuit training"[Title/Abstract] OR "strength exercise"[Title/Abstract] OR "strengthening
exercise"[Title/Abstract] OR "strength training"[Title/Abstract] OR "resistance exercise"[Title/Abstract]
OR "resistance training"[Title/Abstract] OR "progressive resistance"[Title/Abstract] OR "Physical
Exercise"[Title/Abstract] OR "Isometric Exercise"[Title/Abstract] OR "aerobic exercise"[Title/Abstract]
OR "aerobic training"[Title/Abstract] OR "exercise therapy"[Title/Abstract])))))) AND random*

Cochrane Central Register of Controlled Trials:

#1 "Diabetes Mellitus" or "Diabetes Insipidus" or NIDDM or T2DM or T2D or "non insulin* depend*" or "noninsulin* depend*" or "noninsulindepend*" :ti,ab,kw (Word variations have been searched)

#2 MeSH descriptor: [Diabetes Mellitus] explode all trees

#3 #1 OR #2

#4 "muscle strength" or "muscle strengthening" or "muscle-strengthening" or "weight lifting" or weight-lifting or "weight bearing" or weight-bearing or "weight training" or "circuit training" or "strength exercise" or "strengthening exercise" or "strength training" or "resistance exercise" or "resistance training" or "progressive resistance" or "Physical Exercise" or "Isometric Exercise" or "aerobic exercise" or "aerobic training" or "exercise therapy" or "diet*":ti,ab,kw (Word variations have been searched)

#5 MeSH descriptor: [Exercise Therapy] explode all trees

#6 #4 OR #5

#7 #3 AND #6

EMBASE:

#1 'muscle strength'/exp OR 'muscle strength' OR 'muscle strengthening'/exp OR 'muscle strengthening' OR 'muscle-strengthening'/exp OR 'muscle-strengthening' OR 'weight lifting'/exp OR 'weight lifting' OR 'weight bearing'/exp OR 'weight bearing' OR 'weight training' OR 'circuit training'/exp OR 'circuit training' OR 'strength exercise' OR 'strengthening exercise' OR 'strength training'/exp OR 'strength training' OR 'resistance exercise'/exp OR 'resistance training'/exp OR 'resistance training' OR 'progressive resistance' OR 'physical exercise'/exp OR 'physical exercise' OR 'isometric exercise'/exp OR 'isometric exercise'/exp OR 'aerobic exercise' OR 'aerobic training' OR 'exercise therapy'/exp OR 'exercise therapy'

#2 'diabetes mellitus'/exp OR 'diabetes mellitus' OR 'niddm'/exp OR niddm OR t2dm OR t2d OR non AND noninsulin* OR non insulindepend* OR noninsulindepend*

#3 #1 AND #2

Appendix 2 Definition of interventions

Aerobic training (AT): We defined AT as a regimen containing aerobic components performed at least three to five times per week for at least four weeks and performing minimum for 30mins each time. Aerobic components included walking, cycling, jogging, and swimming but not limit to these types ¹.

Resistance training (RT): We defined RT as exercise performed against some type of progressive resistance on a minimum of two days each week to increase their muscle strength, muscle endurance or muscle power ². Resistance components included bench press, seated row, shoulder press, leg press, and weight strength but not limit to these types.

Anaerobic training (an-AT): We defined anaerobic training as high intensity and instantaneous exercise (VO₂max is low), as well as have no aerobic components and consisted of nonaerobic core (exercise ball).

Supervised aerobic training: We defined supervised aerobic training as participants done the aerobic exercise and supervised by trainers.

Unsupervised aerobic training: People participated in home-based aerobic exercise or the RCTs did not mention whether people in this group were supervised by trainers.

Supervised resistance training: Participant done the resistance exercise and supervised by trainers.

Unsupervised resistance training: People participated in home-based resistance exercise or the RCTs did not mention whether people in this group were supervised by trainers.

Combined aerobic training and resistance training (combined exercise): Participant performed the aerobic training program plus the resistance training program to assure an adequate dose of each type of exercise.

Flexibility training: Participants were offered weekly stretching and relaxation classes.

No exercise: Participant were asked do not to participant in any type of exercise and were asked to revert to their level of activity at baseline and maintain their current lifestyle or the RCTs do not mention whether people in control group do some exercise.

Reference

- 1. <u>O'Brien K, Nixon S, Tynan AM</u>, et al. Aerobic exercise interventions for adults living with HIV/AIDS. <u>Cochrane Database Syst Rev.</u> 2010;(8):CD001796
- Busch AJ, Webber SC, Richards RS, et al. Resistance exercise training for fibromyalgia. Cochrane Database Syst Rev. 2013 Dec 20;(12):CD010884

Appendix 3 Results of Results of risk of bias

Appendix 3		ults of risk of bia	S	т 1.4	E C	
Study	Adequate sequence	Adequate allocation	Blinding	Incomplete outcome data	Free of selective	Other bias
Study	generation	concealment	Dilliding	addressed	reporting	Other blas
Kwon						
2010	low risk	unclear risk	low risk	low risk	low risk	unclear risk
Okada		1				, .,
2010	low risk	unclear risk	unclear risk	low risk	low risk	unclear risk
KU	low risk	unclear risk	unclear risk	unclear risk	unclear risk	unclear risk
2010	IOW FISK	unclear risk	unclear risk	unclear risk	unclear risk	unclear risk
Aylin	low risk	unclear risk	unclear risk	low risk	low risk	low risk
2009	10 11 11211	WITCHEN TIBLE	CALCIUM TIDAL	10 11 1121	10 () 11011	10 () 11511
Kenneth	low risk	low risk	low risk	high risk	low risk	unclear risk
2013 Larose						
2011	low risk	unclear risk	unclear risk	low risk	low risk	low risk
Stolinskia						
2008	low risk	unclear risk	unclear risk	low risk	low risk	unclear risk
Arslan	1.1.1	1-1-11-1-	unclear risk	low risk	unclear risk	1.1.1
2014	high risk	high risk	unclear risk	IOW FISK	unclear risk	high risk
Shenoy	low risk	low risk	unclear risk	low risk	low risk	unclear risk
2010	10 W TISK	10 W TISK	uncrear risk	10 W 115K	10 W TISIK	diferent fisk
Belli	low risk	low risk	low risk	low risk	low risk	low risk
2011						
Dunstan 1998	low risk	low risk	unclear risk	low risk	unclear risk	unclear risk
Church						
2011	low risk	low risk	low risk	low risk	unclear risk	low risk
Kwon.		1		1		, .,
2010	low risk	unclear risk	unclear risk	unclear risk	low risk	unclear risk
Reid	low risk	low risk	unclear risk	unclear risk	low risk	unclear risk
2010	IOW IISK	IOW IISK	difficient fisk	diferent fisk	IOW 11SK	uncical fisk
Sigal	low risk	low risk	low risk	low risk	low risk	low risk
2007						
Choi 2012	low risk	low risk	low risk	low risk	unclear risk	low risk
Arora						
2007	low risk	unclear risk	unclear risk	low risk	unclear risk	unclear risk
YAVARI	,				1	
2010	low risk	unclear risk	unclear risk	low risk	unclear risk	low risk
Oliveira	low risk	unclear risk	unclear risk	low risk	low risk	unclear risk
2012	IOW IISK	unclear risk	uncieal risk	IOW IISK	IOW IISK	unclear risk
JENNINGS	high risk	high risk	unclear risk	high risk	unclear risk	low risk
2009		6		5		
Cauza 2005	low risk	unclear risk	unclear risk	low risk	low risk	low risk
Cheung			l .			
2009	low risk	low risk	unclear risk	unclear risk	unclear risk	low risk
Franciele						
2013	low risk	low risk	unclear risk	low risk	unclear risk	low risk
Whye	low risk	unclear risk	low risk	low risk	low risk	low risk
2011	IOW TISK	uncieal fisk	IOW 118K	IOW IISK	IOW TISK	IOW TISK

Morton 2012	low risk	high risk	unclear risk	low risk	low risk	low risk
Dede 2014	low risk	high risk	unclear risk	low risk	low risk	low risk
BACCHI 2012	low risk	low risk	low risk	low risk	unclear risk	low risk
Ng 2010	low risk	low risk	unclear risk	high risk	low risk	low risk
Sparks 2013	low risk	unclear risk	unclear risk	low risk	low risk	unclear risk
Gavin 2010	low risk	low risk	unclear risk	low risk	low risk	low risk
Winnick 2008	low risk	unclear risk	unclear risk	low risk	low risk	low risk
MADDEN 2009	low risk	low risk	low risk	low risk	low risk	unclear risk
Madden 2011	low risk	low risk	low risk	low risk	unclear risk	unclear risk
William 2011	low risk	high risk	unclear risk	low risk	low risk	low risk
Kadoglou 2014	low risk	high risk	unclear risk	low risk	low risk	unclear risk
ALAM 2004	low risk	unclear risk	unclear risk	low risk	low risk	unclear risk
Tessier 2000	low risk	low risk	unclear risk	low risk	low risk	low risk

Appendix 4 Results of direct, indirect, and network meta-analyses

Appendix 4-1 Results of network meta-analyses on HbA1c

Comparisons		Direct	evidence	Indirect evidence	Network meta- analysis	Inconsistency	
	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value
No exercise (reference)							
Supervised aerobic	11	0.0009	0.96 [0.94; 0.98]	55	0.95 [0.93; 0.97]	0.96 [0.94; 0.97]	0.4969
Supervised resistance	5	0.009	0.96 [0.94; 0.98]	46	0.96 [0.94; 0.98]	0.96 [0.95; 0.97]	0.8366
Unsupervised aerobic	2	0.1243	0.98 [0.90; 1.06]	53	1.05 [1.00; 1.10]	1.03 [1.00; 1.07]	0.0044
Unsupervised resistance	2	0.0017	0.98 [0.90; 1.06]	26	1.05 [1,00; 1.10]	1.03 [0.99; 1.07]	0.1605
Combined (reference)							
Flexibility	1	0.0009	1.16 [0.88; 1.53]	31	1.14 [0.95; 1.38]	1.15 [0.98; 1.34]	0.7441
No exercise	3	0.0009	1.07 [1.04; 1.09]	47	1.08 [1.06; 1.11]	1.08 [1.06; 1.09]	0.4204
Supervised aerobic	4	0.0009	1.03 [1.01; 1.04]	45	1.03 [1.01; 1.06]	1.03 [1.02; 1.05]	0.4248
Supervised resistance	4	0.0009	1.03 [1.01; 1.06]	47	1.03 [1.01; 1.06]	1.03 [1.02; 1.05]	0.9388
Unsupervised aerobic	0		-	0	1.11 [1.07; 1.15]	1.11 [1.07; 1.15]	-
Unsupervised resistance	0		-	0	1.11 [1.06; 1.16]	1.11 [1.06; 1.16]	-
Flexibility (reference)							

No exercise	0		-	0	0.94 [0.80; 1.09]	0.94 [0.80; 1.09]	-
Supervised aerobic	1	0.0009	0.87 [0.66; 1.14]	32	0.91 [0.75; 1.10]	0.89 [0.76; 1.05]	0.455
Supervised resistance	1	0.0009	0.93 [0.72; 1.20]	23	0.88 [0.72; 1.07]	0.90 [0.77; 1.05]	0.6491
Unsupervised aerobic	0		-	0	0.97 [0.83; 1.14]	0.97 [0.83; 1.14]	-
Unsupervised resistance	0		-	0	0.96 [0.82; 1.13]	0.96 [0.82; 1.13]	-
Supervised aerobic (reference)							
Supervised resistance	8	0.009	1.00 [0.98; 1.02]	53	1.01 [0.99; 1.03]	1.01 [0.99; 1.02]	0.7070
Unsupervised aerobic	2	0.9954	1.19 [1.13; 1.27]	32	1.00 [0.96; 1.04]	1.08 [1.05; 1.12]	0.0001
Unsupervised resistance	0		-	0	1.08 [1.03; 1.12]	1.08 [1.03; 1.12]	-
Supervised resistance (reference)							
Unsupervised aerobic	1	0.0009	1.07 [0.95; 1.21]	8	1.05 [1.01; 1.09]	1.08 [1.04; 1.12]	0.9086
Unsupervised resistance	0			0	1.07 [1.03; 1.12]	1.07 [1.03; 1.12]	-
Unsupervised aerobic (reference)							
Unsupervised resistance	3	0.0017	1.00 [0.97; 1.04]	100	0.97 [0.88; 1.05]	1.00 [0.97; 1.03]	0.1606

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis.

Appendix 4-2 Results of network meta-analyses on FBG

Comparisons		Direct e	evidence		Indirect evidence	Network meta- analysis	Inconsistency
	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value
No exercise (reference)							
Supervised aerobic	5	0.1597	0.93 [0.87; 0.98]	92	0.94 [0.77; 1.14]	0.93 [0.88; 0.98]	0.9014
Supervised resistance	2	0.6279	1.02 [0.87; 1.21]	37	1.01 [0.89; 1.14]	1.01 [0.92; 1.12]	0.9013
Unsupervised aerobic	0				1.11 [0.81; 1.52]	1.11 [0.81; 1.52]	-
Unsupervised resistance	0		-	0	1.03 [0.72; 1.47]	1.03 [0.72; 1.47]	-
Anaerobic (reference)							
Combined	0		-	0	0.98 [0.84; 1.15]	0.98 [0.84; 1.15]	-
No exercise	0		-	0	1.05 [0.97; 1.14]	1.05 [0.97; 1.14]	-
Supervised aerobic	2	0.1935	0.98 [0.92; 1.03]	100	-	0.98 [0.92; 1.03]	-
Supervised resistance	0	0	-	0	1.07 [0.96; 1.19]	1.07 [0.96; 1.19]	-
Unsupervised aerobic	0	0	-	0	1.17 [0.86; 1.60]	1.17 [0.86; 1.60]	-
Unsupervised resistance	0	0	-	0	1.08 [0.76; 1.54]	1.08 [0.76; 1.54]	-
Combined (reference)							
No exercise	1	1	1.07 [0.94; 1.22]	100	-	1.07 [0.94; 1.22]	

Supervised aerobic	0		<u>-</u>		0.99 [0.86; 1.15]	0.99 [0.86; 1.15]	
_							
Supervised resistance	0		-	-	1.09 [0.92; 1.28]	1.09 [0.92; 1.28]	-
Unsupervised aerobic	0		-	-	1.19 [0.85; 1.68]	1.19 [0.85; 1.68]	-
Unsupervised resistance	0		-	0	1.10 [0.76; 1.61]	1.10 [0.76; 1.61]	-
Supervised aerobic (reference)							
Supervised resistance	3	0.9287	1.09 [0.98; 1.22]	71	1.10 [0.93; 1.31]	1.09 [1.00; 1.20]	0.9014
Unsupervised aerobic	1	1	1.20 [0.88; 1.63]	-	-	1.20 [0.88; 1.63]	-
Unsupervised resistance	0		-	0	1.11 [0.78; 1.57]	1.11 [0.78; 1.57]	-
Supervised resistance (reference)							
Unsupervised aerobic	0		-		1.10 [0.80; 1.51]	1.10 [0.80; 1.51]	-
Unsupervised resistance	0	0	-	0	1.01 [0.71; 1.45]	1.01 [0.71; 1.45]	-
Unsupervised aerobic (reference)							
Unsupervised resistance	1	1	0.92 [0.79; 1.09]	100		0.92 [0.79; 1.09]	-

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); FBG: fasting plasma glucose; Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis.

Appendix 4-3 Results of network meta-analyses weight

Comparisons		Direct 6	evidence	Indirect evidence	Network meta- analysis	Inconsistency	
	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value
No exercise (reference)							
Supervised aerobic	6	0.7864	0.98 [0.94; 1.01]	63	0.96 [0.91; 1.00]	0.97 [0.94; 1.00]	0.2230
Supervised resistance	3	0.8421	0.98 [0.93; 1.03]	51	0.97 [0.92; 1.02]	0.98 [0.94; 1.01]	0.9521
Unsupervised aerobic	1	1	0.99 [0.92; 1.07]	32	1.07 [1.01; 1.13]	1.04 [1.00; 1.08]	0.1073
Unsupervised resistance	1	1	0.96 [0.90; 1.03]	76	0.98 [0.87; 1.10]	0.97 [0.91; 1.02]	0.8585
Anaerobic (reference)							
Combined	0		-	0	1.00 [0.91; 1.11]	1.00 [0.91; 1.11]	-
No exercise	0		-	0	1.07 [0.98; 1.17]	1.07 [0.98; 1.17]	-
Supervised aerobic	3	0.7726	1.05 [0.97; 1.14]	100	-	1.05 [0.97; 1.14]	-
Supervised resistance	0	0	-	0	1.05 [0.96; 1.15]	1.05 [0.96; 1.15]	-
Unsupervised aerobic	0	0	-	0	1.12 [1.02; 1.22]	1.12 [1.02; 1.22]	-
Unsupervised resistance	0	0	-	0	1.04 [0.93; 1.15]	1.04 [0.93; 1.15]	-
Combined (reference)							
No exercise	2	0.5385	1.07 [0.99; 1.15]	56	1.07[0.98; 1.16]	1.07 [1.01; 1.13]	0.9564

Supervised aerobic	1	1	1.05 [0.94; 1.18]	25	1.05 [0.98; 1.12]	1.05 [0.99; 1.11]	0.9433
Supervised resistance	1	1	1.05 [0.99; 1.11]	31	1.05 [0.98; 1.12]	1.05 [0.99; 1.11]	0.9951
Unsupervised aerobic	0		-	-	1.11 [1.04; 1.19]	1.11 [1.04; 1.19]	-
Unsupervised resistance	0		-	0	1.03 [0.95; 1.12]	1.03 [0.95; 1.12]	-
Supervised aerobic (reference)							
Supervised resistance	4	0.9547	1.01 [0.96; 1.05]	61	1.01 [0.96; 1.07]	1.01 [0.97; 1.05]	0.9495
Unsupervised aerobic	1	1	1.09 [1.04; 1.14]	69	1.02 [0.95; 1.10]	1.07 [1.03; 1.11]	0.0845
Unsupervised resistance	0		-	0	1.00 [0.94; 1.06]	1.00 [0.94; 1.06]	-
Supervised resistance (reference)							
Unsupervised aerobic	0		-	0	1.06 [1.01; 1.11]	1.06 [1.01; 1.11]	-
Unsupervised resistance	0	0	-	0	0.99 [0.92; 1.06]	0.99 [0.92; 1.06]	-
Unsupervised aerobic (reference)							
Unsupervised resistance	1	1	0.94 [0.84; 1.05]	35	0.93 [0.86; 1.01]	0.93 [0.87; 0.99]	0.7478

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis.

Appendix 4-4 Results of network meta-analyses on SBP

Comparisons		Direct ev	idence	Indirect evidence	Network meta- analysis	Inconsistency	
	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value
No exercise (reference)							
Supervised aerobic	6	0.2179	0.97 [0.94 1.00]	74	0.97 [0.92 1.02]	0.97 [0.95 1.00]	0.9455
Supervised resistance	3	0.0075	0.96 [0.92; 1.00]	51	0.96 [0.92; 1.00]	0.96 [0.93; 0.99]	0.8645
Unsupervised aerobic	2	0.2631	0.94 [0.89; 0.99]	66	1.03 [0.96; 1.11]	0.97 [0.93; 1.01]	0.0373
Unsupervised resistance	0				0.95 [0.87; 1.04]	0.95 [0.87; 1.04]	0.8585
Anaerobic (reference)							
Combined	0		-	0	0.98 [0.89; 1.08]	0.98 [0.89; 1.08]	-
No exercise	0		-	0	1.01 [0.92; 1.11]	1.01 [0.92; 1.11]	-
Supervised aerobic	2	0.8607	0.99 [0.90; 1.07]	100	-	0.99 [0.90; 1.07]	-
Supervised resistance	0	0	-	0	0.97 [0.89; 1.07]	0.97 [0.89; 1.07]	-
Unsupervised aerobic	0	0	-	0	0.98 [0.89; 1.08]	0.98 [0.89; 1.08]	-
Unsupervised resistance	0	0	-	0	0.96 [0.85; 1.09]	0.96 [0.85; 1.09]	-
Combined (reference)							
No exercise	2	0.9884	1.00 [0.94; 1.06]	46	1.07 [1.01; 1.13]	1.03 [0.99; 1.08]	0.1210

Supervised aerobic	1	1	1.02 [0.94; 1.10]	31	1.00 [0.95; 1.06]	1.01 [0.97; 1.05]	0.8008
Supervised resistance	1	1	1.02 [0.94; 1.10]	32	0.98 [0.93; 1.04]	0.99 [0.95; 1.04]	0.5126
Unsupervised aerobic	1	1	1.08 [0.95; 1.23]	18	0.98 [0.93; 1.04]	1.00 [0.95; 1.06]	0.1817
Unsupervised resistance	0			0	0.98 [0.89; 1.09]	0.98 [0.89; 1.09]	-
Supervised aerobic (reference)							
Supervised resistance	4	0.8527	0.99 [0.95; 1.04]	49	0.98 [0.94; 1.03]	0.99 [0.96; 1.02]	0.8030
Unsupervised aerobic	0				0.99 [0.95; 1.04]	0.99 [0.95; 1.04]	0.0845
Unsupervised resistance	0		-	0	0.98 [0.89; 1.07]	0.98 [0.89; 1.07]	-
Supervised resistance (reference)							
Unsupervised aerobic	1	1	1.05 [0.97; 1.14]	34	0.98 [0.93; 1.04]	1.01 [0.96; 1.05]	0.1797
Unsupervised resistance	0	0	-	0	0.99 [0.90; 1.09]	0.99 [0.90; 1.09]	-
Unsupervised aerobic (reference)							
Unsupervised resistance	1	1	0.98 [0.91; 1.07]	100	-	0.98 [0.91; 1.07]	0.7478

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); SBP: systolic blood pressure; Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis.

Appendix 4-5 Results of network meta-analyses on DBP

Comparisons		Direct e	evidence	Indirect evidence	Network meta- analysis	Inconsistency	
	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value
No exercise (reference)							
Supervised aerobic	6	0.0103	0.97 [0.93; 1.01]	79	0.96 [0.91; 1.03]	0.97 [0.94; 1.00]	0.8631
Supervised resistance	3	0.0483	0.97 [0.92; 1.03]	55	0.96 [0.91; 1.01]	0.97 [0.93; 1.00]	0.7194
Unsupervised aerobic	2	0.0086	0.92 [0.86; 0.98]	80	1.03 [0.92; 1.15]	0.94 [0.89; 1.00]	0.0733
Unsupervised resistance	0				0.97 [0.86; 1.09]	0.97 [0.86; 1.09]	-
Anaerobic (reference)							
Combined	0		-	0	0.95 [0.86; 1.04]	0.95 [0.86; 1.04]	-
No exercise	0		-	0	0.96 [0.88; 1.04]	0.96 [0.88; 1.04]	-
Supervised aerobic	2	0.5039	0.93 [0.86; 1.00]	100		0.93 [0.86; 1.00]	-
Supervised resistance	0	0	-	0	0.93 [0.85; 1.01]	0.93 [0.85; 1.01]	-
Unsupervised aerobic	0	0	-	0	0.91 [0.82; 1.00]	0.91 [0.82; 1.00]	-
Unsupervised resistance	0	0	-	0	0.93 [0.81; 1.07]	0.93 [0.81; 1.07]	-
Combined (reference)							
No exercise	2	0.6432	0.99 [0.92; 1.07]	49	1.03 [0.96; 1.11]	1.01 [0.96; 1.06]	0.4556

Supervised aerobic	1	1	0.99 [0.90; 1.09]	33	0.97 [0.91; 1.04]	0.98 [0.93; 1.03]	0.8240
Supervised resistance	1	1	1.00 [0.91; 1.10]	35	0.96 [0.90; 1.03]	0.98 [0.92; 1.03]	0.5428
Unsupervised aerobic	0				0.95 [0.89; 1.03]	0.95 [0.89; 1.03]	
Unsupervised resistance	0			0	0.98 [0.86; 1.11]	0.98 [0.86; 1.11]	-
Supervised aerobic (reference)							
Supervised resistance	4	0.8270	1.00 [0.95; 1.06]	41	0.99 [0.94; 1.05]	1.00 [0.96; 1.04]	0. 0.7358
Unsupervised aerobic	0				0.97 [0.92; 1.04]	0.97 [0.92; 1.04]	
Unsupervised resistance	0		-	0	1.00 [0.89; 1.13]	0.99 [0.91; 1.08]	-
Supervised resistance (reference)							
Unsupervised aerobic	1	1	1.05 [0.95; 1.16]	28	0.94 [0.87; 1.01]	0.98 [0.92; 1.04]	0.0733
Unsupervised resistance	0	0	-	0	1.00 [0.89; 1.13]	1.00 [0.89; 1.13]	-
Unsupervised aerobic (reference)							
Unsupervised resistance	1	1	1.03 [0.95; 1.11]	100	-	1.03 [0.93; 1.14]	-

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); DBP: diastolic blood pressure; Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis.

Appendix 4-6 Results of network meta-analyses on TC

Comparisons		Direct ev	ridence	Indirect evidence	Network meta- analysis	Inconsistency	
Comparisons	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value
No exercise (reference)							
Supervised aerobic	4		0.89 [0.83; 0.95]	66	0.91 [0.83; 0.99]	0.89 [0.85; 0.94]	0.7329
Supervised resistance	1		0.86 [0.77; 0.95]	32	0.90 [0.83; 0.96]	0.88 [0.83; 0.94]	0.5024
Unsupervised aerobic	2		0.97 [0.89; 1.04]	68	0.95 [0.85; 1.06]	0.96 [0.90; 1.02]	0.7674
Combined (reference)							
Flexibility	1		0.94 [0.80; 1.10]	40	0.91 [0.80; 1.04]	0.92 [0.84; 1.02]	0.7557
No exercise	2		0.96 [0.90; 1.03]	74	1.01 [0.91; 1.13]	0.97 [0.92; 1.03]	0.4225
Supervised aerobic	1		0.93 [0.79; 1.08]	18	0.86; [0.80; 0.93]	0.87 [0.82; 0.93]	0.3910
Supervised resistance	11		0.86 [0.74; 1.00]	22	0.86 [0.79; 0.93]	0.86 [0.80; 0.92]	0.9888
Unsupervised aerobic	0		-	0	0.93 [0.86; 1.01]	0.93 [0.86; 1.01]	-
Flexibility (reference)							
No exercise	0		-	0	1.05 [0.95; 1.17]	1.05 [0.95; 1.17]	-
Supervised aerobic	1		0.94 [0.85; 1.04]	37	0.98 [0.84; 1.16]	0.92 [0.81; 1.04]	0.5207
Supervised resistance	1		0.93 [0.84; 1.03]	40	0.91 [0.78; 1.07]	0.94 [0.83; 1.07]	0.7433

Unsupervised aerobic	0	-	0	1.01 [0.90; 1.13]	1.01 [0.90; 1.13]	-
Supervised aerobic (reference)						
Supervised resistance	3	0.99 [0.91; 1.08]	47	0.98 [0.90; 1.07]	0.99 [0.93; 1.05]	0.8675
Unsupervised aerobic	2	1.20 [0.93; 1.55]	8	1.06 [0.98; 1.15]	1.07 [1.00; 1.15]	0.3503
Supervised resistance (reference)						
Unsupervised aerobic	1	1.06 [0.96; 1.16]	49	1.12 [1.01; 1.23]	1.09 [1.01; 1.16]	0.4284

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); TC: total cholesterol; Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis.

Appendix 4-7 Results of network meta-analyses on TG

Comparisons		Direct ev	vidence		Indirect evidence	Network meta- analysis	Inconsistency	
Comparisons	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value	
No exercise (reference)								
Supervised aerobic	6	0.9480	0.88 [0.79; 0.98]	72	0.86 [0.73; 1.02]	0.87 [0.80; 0.96]	0.8720	
Supervised resistance	3	0.9460	0.85 [0.75; 0.97]	48	0.92 [0.81; 1.04]	0.89 [0.81; 0.97]	0.4518	
Unsupervised aerobic	2	0.3147	0.95 [0.84; 1.08]	62	0.95 [0.81; 1.12]	0.95 [0.86; 1.05]	0.9996	
Combined (reference)								
No exercise	4	0.6096	1.28 [1.10; 1.50]	56	1.41 [1.18; 1.68]	1.34 [1.19; 1.50]	0.4360	
Supervised aerobic	2	0.8472	1.23 [0.98; 1.53]	34	1.14 [0.97; 1.33]	1.17 [1.03; 1.33]	0.5952	
Supervised resistance	2	0.8558	1.23 [0.98; 1.53]	34	1.16 [0.99; 1.36]	1.18 [1.04; 1.35]	0.7048	
Unsupervised aerobic	0				1.27 [1.10; 1.47]	1.27 [1.10; 1.47]		
Supervised aerobic (reference)								
Supervised resistance	4	0.3315	1.07 [0.87; 1.30]	31	0.99 [0.87; 1.14]	1.01 [0.91; 1.14]	0.5631	
Unsupervised aerobic	1	1	1.90 [0.34; 10.48]	8	1.09 [0.95; 1.24]	1.09 [0.96; 1.24]	0.5231	
Supervised resistance (reference)								

Unsupervised aerobic 1 1 1.07 [0.94; 1.22] 62 1.08 [0.91; 1.28] 1.08 [0.97; 1.19] 0.9377

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); TG: triacylglycerol; Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis.

Appendix 4-8 Results of network meta-analyses on LDL

Companisons		Direct e	vidence	Indirect evidence	Network meta- analysis	Inconsistency	
Comparisons	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value
No exercise (reference)							
Supervised aerobic	5	0.1477	0.90 [0.79; 1.02]	68	0.87 [0.73; 1.04]	0.89 [0.80; 0.99]	0.7115
Supervised resistance	1	0.6279	1.04 [0.77; 1.40]	24	0.83 [0.71; 0.98]	0.88 [0.76; 1.01]	0.2127
Unsupervised aerobic	1	0.5010	0.98 [0.73; 1.32]	48	1.17 [0.89; 1.55]	1.08 [0.88; 1.33]	0.3952
Unsupervised resistance	0				1.12 [0.81; 1.56]	1.12 [0.81; 1.56]	
Combined (reference)							
Flexibility	1	0.1786	0.89 [0.64; 1.24]	41	1.01 [0.77; 1.33]	0.96 [0.78; 1.19]	0.5713
No exercise	3	0.2117	1.13 [0.95; 1.34]	54	1.03 [0.85; 1.24]	1.08 [0.95; 1.23]	0.4633
Supervised aerobic	2	0.1312	0.97 [0.77; 1.21]	34	0.96 [0.82; 1.13]	0.96 [0.85; 1.10]	0.9891
Supervised resistance	2	0.1751	0.91 [0.73; 1.14]	43	0.98 [0.81; 1.18]	0.95 [0.82; 1.10]	0.6454
Unsupervised aerobic	0		-	0	1.17 [0.93; 1.47]	1.17 [0.93; 1.47]	-
Unsupervised resistance	0		-	0	1.22 [0.86; 1.72]	1.22 [0.86; 1.72]	-
Flexibility (reference)							
No exercise	0		-	0	1.13 [0.91; 1.41]	1.13 [0.91; 1.41]	-

Supervised aerobic	1	0.1333	1.03 [0.72; 1.46]	36	0.99 [0.76; 1.29]	1.00 [0.81; 1.24]	0.8750
Supervised resistance	1	0.2179	0.89 [0.64; 1.26]	38	1.05 [0.80; 1.38]	0.99 [0.80; 1.22]	0.4626
Unsupervised aerobic	0		-	0	1.22 [0.92; 1.62]	1.21 [0.94; 1.57]	-
Unsupervised resistance	0		-	0	1.27 [0.86; 1.86]	1.27 [0.86; 1.86]	-
Supervised aerobic (reference)							
Supervised resistance	4	0.3452	0.98 [0.82; 1.17]	54	0.99 [0.82; 1.21]	0.99 [0.86; 1.12]	0.9229
Unsupervised aerobic	2	0.1327	1.30 [1.01; 1.69]	59	1.09 [0.79; 1.50]	1.21 [0.99; 1.48]	0.3952
Unsupervised resistance	0		-	0	1.26 [0.91; 1.75]	1.26 [0.91; 1.75]	-
Supervised resistance (reference)							
Unsupervised aerobic	0				1.23 [0.98; 1.56]	1.23 [0.98; 1.56]	
Unsupervised resistance	0			0	1.28 [0.90; 1.81]	1.28 [0.90; 1.81]	-
Unsupervised aerobic (reference)							
Unsupervised resistance	1	0.3452	1.04 [0.80; 1.35]	100	-	1.04 [0.80; 1.35]	

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); LDL: low-density lipoprotein cholesterol; Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis.

Appendix 4-9 Results of network meta-analyses on HDL

G		Direct e	evidence		Indirect evidence	Network meta- analysis	Inconsistency
Comparisons	Number of RCTs	Heterogeneity (P-value)	RoM [95%CI]	Contribute to NMA/%	RoM [95%CI]	RoM [95%CI]	p-value
No exercise (reference)							
Supervised aerobic	5	0.0003	0.92 [0.89; 0.96]	68	0.90 [0.86; 0.95]	0.92 [0.89; 0.96]	0.1271
Supervised resistance	2	0.8616	1.04 [0.94; 1.16]	23	0.86 [0.81; 0.91]	0.90 [0.85; 0.94]	0.0014
Unsupervised aerobic	2	0.8822	1.03 [0.88; 1.20]	70	0.90 [0.71; 1.13]	0.99 [0.87; 1.12]	0.3290
Unsupervised resistance	0				0.91 [0.71; 1.17]	0.91 [0.71; 1.17]	
Combined (reference)							
Flexibility	1	0.1786	0.92 [0.79; 1.06]	33	1.00 [0.90; 1.10]	0.97 [0.89; 1.05]	0.3502
No exercise	3	0.2117	1.04 [1.00; 1.08]	79	0.98[0.91; 1.06]	1.03 [1.00; 1.07]	0.1381
Supervised aerobic	2	0.1312	0.96 [0.87; 1.05]	23	0.95 [0.90; 1.00]	0.95 [0.91; 0.99]	0.8302
Supervised resistance	2	0.1751	0.88 [0.81; 0.96]	37	0.95 [0.89; 1.02]	0.92 [0.88; 0.97]	0.1245
Unsupervised aerobic	0		-	0	1.01 [0.93; 1.11]	1.01 [0.93; 1.11]	-
Unsupervised resistance	0		-	0	0.93 [0.79; 1.11]	0.93 [0.79; 1.11]	-
Flexibility (reference)							
No exercise	0		-	0	1.06 [0.98; 1.16]	1.06 [0.98; 1.16]	-

Supervised aerobic	1	0.1333	0.95 [0.86; 1.06]	32	0.99 [0.76; 1.29]	0.98 [0.90; 1.06]	0.3705
Supervised resistance	1	0.2179	0.89 [0.79; 1.00]	48	1.02 [0.91; 1.14]	0.95 [0.88; 1.03]	0.0900
Unsupervised aerobic	0		-	0	1.04 [0.93; 1.17]	1.04 [0.93; 1.17]	-
Unsupervised resistance	0		-	0	0.96 [0.80; 1.16]	0.96 [0.80; 1.16]	-
Supervised aerobic (reference)							
Supervised resistance	4	0.1382	0.96 [0.86; 1.08]	51	0.99 [0.88; 1.11]	0.98 [0.90; 1.06]	0.7298
Unsupervised aerobic	1	1	0.74 [0.35; 1.57]	3	1.03 [0.90; 1.19]	1.02 [0.89; 1.17]	0.3930
Unsupervised resistance	0		-	0	0.94 [0.73; 1.22]	1.26 [0.95; 1.67]	-
Supervised resistance (reference)							
Unsupervised aerobic	1	1	0.98 [0.78; 1.23]	37	1.08 [0.91; 1.29]	1.05 [0.91; 1.20]	0.4963
Unsupervised resistance	0			0	0.96 [0.75; 1.25]	0.96 [0.75; 1.25]	-
Unsupervised aerobic (reference)							
Unsupervised resistance	1		0.92 [0.74; 1.14]	100		0.92 [0.74; 1.14]	

NOTE: Comparison: Treatment comparison; p-value: p-value of test for disagreement (direct versus indirect); HDL: high-density lipoprotein cholesterol; Bold: significant difference in direct analysis indirect analysis and network meta-analysis, RoM: ratio of mean; NMA: network meta-analysis

Appendix 5 Subgroup analyses
Appendix 5-1 Subgroup analysis of diabetes duration in HbA1c

	diabet	es duration	n ≤6 (years)	diabetes	duration	>6 (years)
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
flexibility training	na	na	na	2	0.47	0.98 [0.92; 1.05]
no exercise	2	0.45	1.16 [1.12;1.21]	2	0.43	1.05 [1.05; 1.05]
supervised aerobic	2	0.44	1.07 [1.03;1.11]	3	0.58	1.03 [1.02; 1.03]
supervised resistance	2	0.46	1.07 [1.03;1.11]	3	0.54	1.02 [1.02; 1.03]
unsupervised aerobic			na	na	na	
unsupervised resistance	0	0	1.11 [1.01; 1.23]	na	na	na
vs. no exercise						
supervised aerobic	4	0.66	0.92 [0.89; 0.95]	5	0.44	0.98 [0.97; 0.98]
supervised resistance	3	0.51	0.92 [0.89; 0.95]	2	0.43	0.97 [0.97; 0.98]
unsupervised aerobic	1	0.54	0.94 [0.86; 1.02]	na	na	na
unsupervised resistance	1	1	0.96 [0.87; 1.05]	na	na	na
vs. supervised aerobic						
supervised resistance	3	0.44	1.01 [0.97; 1.04]	6	0.58	1.00 [0.99; 1.00]
unsupervised aerobic	0	0	1.02 [0.94; 1.12]	na	na	na
unsupervised resistance	0	0	1.04 [0.95; 1.15]	na	na	na
vs. supervised resistance						
unsupervised aerobic	1	0.5	1.02 [0.94; 1.11]	na	na	na
unsupervised resistance	0	0	1.04 [0.94; 1.15]	na	na	na
vs. unsupervised aerobic						
unsupervised resistance	0	0	1.02 [0.90; 1.16]	na	na	na
vs. flexibility training						
no exercise	na	na	na	0	0	1.07 [1.00; 1.14]
supervised aerobic	na	na	na	2	0.31	1.04 [0.98; 1.11]
supervised resistance	supervised resistance na na na		na	2	0.22	1.04 [0.97; 1.11]

Appendix 5-2 Subgroup analysis of age in HbA1c

	A	ge<60	(years)	Age≥60 (years)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
flexibility training	2	0.47	0.99 [0.92; 1.06]	na	na	na	
no exercise	4	0.47	1.07 [1.06; 1.09]	na	na	na	
supervised aerobic	5	0.45	1.03 [1.01; 1.04]	na	na	na	
supervised resistance	5	0.47	1.03 [1.02; 1.05]	na	na	na	
unsupervised aerobic	0	0	1.11 [1.07; 1.15]	na	na	na	
unsupervised resistance	0	0	1.11 [1.06; 1.16]	na	na	na	
vs. no exercise							
supervised aerobic	8	0.53	0.96 [0.94; 0.97]	3	1	0.94 [0.87; 1.02]	
supervised resistance	5	0.46	0.96 [0.95; 0.98]	na	na	na	
unsupervised aerobic	2	0.47	1.03 [1.00; 1.07]	na	na	na	
unsupervised resistance	1	0.2	1.03 [0.99; 1.08]	1	1	1.03 [0.89; 1.19]	
vs. supervised aerobic							
supervised resistance	9	0.54	1.01 [0.99; 1.02]	na	na	na	
unsupervised aerobic	2	0.37	1.08 [1.05; 1.12]	na	na	na	
unsupervised resistance	0	0	1.08 [1.03; 1.13]	0	0	1.09 [0.93; 1.29]	
vs. supervised resistance							
unsupervised aerobic	1	0.09	1.08 [1.04; 1.12]	na	na	na	
unsupervised resistance	0	0	1.07 [1.02; 1.12]	na	na	na	
vs. unsupervised aerobic			, ,				
unsupervised resistance	3	0.92	1.00 [0.97; 1.03]	na	na	na	
vs. flexibility training			,,				
no exercise	0	0	1.09 [1.02; 1.17]	na	na	na	
supervised aerobic	2	0.32	1.04 [0.97; 1.11]	na	na	na	
supervised resistance	2	0.23	1.05 [0.98; 1.12]	na	na	na	
unsupervised aerobic	0	0	1.13 [1.04; 1.21]	na	na	na	
unsupervised resistance	0	0	1.12 [1.03; 1.21]	na	na	na	

Appendix 5-3 Subgroup analysis of study duration in HbA1c

	Study	duration <u>s</u>	≤6 (month)	Study duration >6 (month)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
flexibility training	na	na	na	1	0.32	1.18 [1.01; 1.39]	
no exercise	1	0.47	1.06 [1.04; 1.07]	2	0.48	1.14 [1.10; 1.19]	
supervised aerobic	1	0.46	1.02 [1.01; 1.04]	3	0.47	1.07 [1.03; 1.11]	
supervised resistance	1	0.48	1.02 [1.01; 1.04]	3	0.49	1.08 [1.04; 1.12]	
unsupervised aerobic	0	0	1.04 [1.00; 1.09]	0	0	1.28 [1.20; 1.37]	
unsupervised resistance	0	0	1.04 [0.99; 1.09]	na	na	na	
vs. no exercise							
supervised aerobic	8	0.57	0.97 [0.95; 0.98]	3	0.54	0.94 [0.90; 0.97]	
supervised resistance	3	0.47	0.97 [0.95; 0.98]	2	0.5	0.94 [0.91; 0.98]	
unsupervised aerobic	2	0.67	0.99 [0.95; 1.03]	0	0	1.12 [1.05; 1.19]	
unsupervised resistance	2	0.31	0.98 [0.94; 1.03]	na	na	na	
vs. supervised aerobic							
supervised resistance	5	0.54	1.00 [0.99; 1.01]	3	0.5	1.01 [0.97; 1.04]	
unsupervised aerobic	0	0	1.02 [0.98; 1.06]	2	1	1.19 [1.13; 1.26]	
unsupervised resistance	0	0	1.02 [0.97; 1.07]				
vs. supervised resistance							
unsupervised aerobic	1	0.12	1.02 [0.98; 1.06]	0	0	1.19 [1.11; 1.27]	
unsupervised resistance	0	0	1.02 [0.97; 1.07]	na	na	na	
vs. unsupervised aerobic							
unsupervised resistance	3	0.91	1.00 [0.97; 1.03]	na	na	na	
vs. flexibility training							
no exercise	na	na	na	0	0	0.97 [0.83; 1.13]	
supervised aerobic	na	na	na	1	0.32	0.91 [0.77; 1.06]	
supervised resistance	na	na	na	1	0.38	0.91 [0.78; 1.07]	

Appendix 5-4 Subgroup analysis of type of patients in HbA1c

		Sede	ntary		Non-sedentary				
Comparisons	No. of direct comparisons	prop	NMA	95%-CI	No. of direct comparisons	prop	NMA CI	95%-	
vs. Combined									
flexibility training	1	0.31	1.14 [0.98; 1.34]	NA	NA	N	ĪΑ	
no exercise	2	0.43	1.05 [1.05; 1.06]	1	0.38	1.16 [1.	03; 1.32]	
supervised aerobic	3	0.58	1.03 [1.02; 1.03]	1	0.37	1.07 [0.	94; 1.21]	
supervised resistance	3	0.54	1.02 [1.02; 1.03]	1	0.39	1.07 [0.	94; 1.22]	
unsupervised aerobic	0	0	1.05 [1.00; 1.11]	0	0	1.17 [1.	00; 1.36]	
unsupervised resistance	0	0	1.08 [0.93; 1.25]	0	0	1.18 [0	.99;1.41]	
vs. no exercise									
supervised aerobic	4	0.44	0.98 [0.97; 0.98]	7	0.7	0.92 [0.	86; 0.98]	
supervised resistance	2	0.43	0.97 [0.97; 0.98]	3	0.46	0.92 [0.	85; 1.00]	
unsupervised aerobic	1	1	1.00 [0.95; 1.05]	1	0.24	1.00 [0.	90; 1.11]	
unsupervised resistance	1	1	1.03 [0.89; 1.19]	1	0.39	1.02 [0.	89; 1.16]	
vs. supervised aerobic									
supervised resistance	4	0.58	1.00 [0.99; 1.00]	4	0.53	1.01 [0.	93; 1.09]	
unsupervised aerobic	0	0	1.02 [0.97; 1.08]	2	0.48	1.09 [0.	98; 1.21]	
unsupervised resistance	0	0	1.05 [0.91; 1.22]	0	0	1.11 [0.	97; 1.27]	
vs. supervised resistance									
unsupervised aerobic	0	0	1.03 [0.98; 1.08]	1	0.27	1.09 [0.	97; 1.22]	
unsupervised resistance	0	0	1.06 [0.91; 1.22]	0	0	1.10 [0.	95; 1.27]	
vs. unsupervised aerobic									
unsupervised resistance	0	0	1.03 [0.88; 1.20]	3	0.80	1.02 [0.	91; 1.13]	
vs. flexibility training			_	_			_	-	
no exercise	0	0	0.92 [0.79; 1.07]	NA	NA	N	ĪΑ	
supervised aerobic	1	0.31	0.90 [0.77; 1.05]	NA	NA	N	ĪΑ	
supervised resistance	1	0.37	0.89 [0.77; 1.04]	NA	NA	N	N Α	

Appendix 5-5 Subgroup analysis of diabetes duration in FBG

Comparisons	diabete	s duration	n ≤6 (years)	diabetes duration >6 (years)			
	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
flexibility training	na	na	na	1	0.51	0.90 [0.79; 1.03]	
no exercise	na	na	na	1	0.58	1.04 [0.94; 1.15]	
supervised aerobic	na	na	na	1	0.21	0.98 [0.88; 1.08]	
supervised resistance	na	na	na	1	0.2	1.11 [0.99; 1.26]	
vs. no exercise							
supervised aerobic	2	0.9	0.81 [0.68; 0.95]	3	0.83	0.94 [0.88; 1.00]	
supervised resistance	1	0.53	0.92 [0.69; 1.22]	1	0.26	1.07 [0.97; 1.18]	
vs. supervised aerobic							
supervised resistance	1	0.56	1.14 [0.86; 1.51]	3	0.66	1.14 [1.04; 1.25]	
vs. flexibility training							
no exercise	na	na	na	0	0	1.16 [1.01; 1.33]	
supervised aerobic	na	na	na	1	0.44	1.09 [0.96; 1.23]	
supervised resistance	na	na	na	1	0.32	1.24 [1.08; 1.42]	

NOTE: NA: not available; prop: direct evidence proportion; NMA: network meta-analysis; FBG: fasting plasma glucose

Appendix 5-6 Subgroup analysis of age in FBG

	A	ge<60 (y	years)		Age≥60 (years)				
Comparisons	No. of direct comparisons	prop	nma	95%-CI	No. of direct comparisons	prop	nma	95%-CI	
vs. Combined									
flexibility training	1	0.5	0.88 [0	0.73; 1.05]	na	na		na	
no exercise	1	0.47	1.09 [0	0.93; 1.27]	na	na		na	
supervised aerobic	1	0.27	0.93 [0	0.80; 1.09]	na	na		na	
supervised resistance	1	0.25	1.09 [0	0.92; 1.28]	na	na		na	
unsupervised aerobic	0	0	1.12 [0	0.76; 1.65]	na	na		na	
unsupervised resistance	0	0	1.03 [0	0.65; 1.64]	na	na		na	
vs. no exercise				_					
supervised aerobic	3	0.73	0.86 [0	0.77; 0.95]	na	na		na	
supervised resistance	2	0.37	1.00 [0	0.88; 1.14]	na	na		na	
unsupervised aerobic	0	0	1.03 [0	0.71; 1.50]	na	na		na	
unsupervised resistance	0	0	_	0.61; 1.49]	na	na		na	
vs. supervised aerobic			_	_					
supervised resistance	4	0.64	1.17 [1	1.04; 1.31]	na	na		na	
unsupervised aerobic	1	1	1.20 [0	0.84; 1.72]	na	na		na	
unsupervised resistance	0	0	1.11 [(0.72; 1.71]	na	na		na	
vs. supervised resistance			_	_					
unsupervised aerobic	0	0	1.03 [0	0.71; 1.50]	na	na		na	
unsupervised resistance	0	0	_	0.61; 1.49]	na	na		na	
vs. unsupervised aerobic			-						
unsupervised resistance	1	1	0.92 [0	0.72; 1.18]	na	na		na	
vs. flexibility training			_	_					
no exercise	0	0	1.24 [1	1.03; 1.50]				na	
supervised aerobic	1	0.43	1.06 [0	0.89; 1.27]	3	1	0.95 [0	0.82; 1.10]	
supervised resistance	1	0.35	_	1.04; 1.49]	na	na		na	
unsupervised aerobic	0	0	-	0.86; 1.90]	na	na		na	
unsupervised resistance	0	0	_	0.74; 1.89]	na	na		na	
vs. anaerobic			-	_					
no exercise	na	na		na	0	0	0.99 [0	0.80; 1.23]	
supervised aerobic	na	na		na	2	1	0.94 [0	0.81; 1.10]	

NOTE: NA: not available; prop: direct evidence proportion; NMA: network meta-analysis; FBG: fasting plasma glucose

Appendix 5-7 Subgroup analysis of study duration in FBG

Comparisons	Study	duration ≤	(6 (month)	Study duration >6 (month)			
	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
no exercise	1	1	1.07 [0.94; 1.22]	na	na	na	
supervised aerobic	0	0	1.02 [0.88; 1.19]	na	na	na	
supervised resistance	0	0	1.11 [0.94; 1.31]	na	na	na	
vs. no exercise							
supervised aerobic	4	0.87	0.95 [0.89; 1.02]	1	1	0.88 [0.80; 0.97]	
supervised resistance	2	0.4	1.04 [0.93; 1.15]	na	na	na	
unsupervised aerobic	na	na	na	0	0	1.06 [0.77; 1.46]	
vs. supervised aerobic							
supervised resistance	3	0.73	1.08 [0.99; 1.19]	na	na	na	
unsupervised aerobic	na	na	na	1	1	1.20 [0.88; 1.63]	
vs. anaerobic							
combined	0	0	0.95 [0.81;1.12]	na	na	na	
no exercise	0	0	1.02 [0.93;1.12]	na	na	na	
supervised aerobic	2	1	0.98 [0.92;1.03]	na	na	na	
supervised resistance	0	0	1.06 [0.95;1.18]	na	na	na	

 $\textbf{NOTE:} \ NA: \ not \ available; \ prop: \ direct \ evidence \ proportion; \ NMA: \ network \ meta-analysis; \ FBG:$

fasting plasma glucose

Appendix 5-8 Subgroup analysis of type of patients in FBG

		Sedent	ary	Non-sedentary			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
no exercise	na	na	na	1	1	1.07 [0.94; 1.22]	
supervised aerobic	na	na	na	0	0	1.02 [0.88; 1.19]	
supervised resistance	na	na	na	0	0	1.11 [0.94; 1.31]	
unsupervised aerobic	na	na	na	0	0	1.23 [0.87; 1.73]	
vs. no exercise							
supervised aerobic	1	1	0.88 [0.80; 0.97]	4	0.87	0.95 [0.89; 1.02]	
supervised resistance	na	na	na	2	0.40	1.04 [0.93; 1.15]	
unsupervised aerobic	na	na	na	0	0	1.15 [0.84; 1.57]	
vs. supervised aerobic							
supervised resistance	na	na	na	3	0.73	1.08 [0.99; 1.19]	
unsupervised aerobic	na	na	na	1	1	1.20 [0.88; 1.63]	
vs. supervised resistance							
unsupervised aerobic	na	na	na	0	0	1.11 [0.80; 1.53]	
vs. anaerobic							
combined				0	0	0.96 [0.82; 1.13]	
no exercise	0	0	0.97 [0.78; 1.21]	0	0	1.03 [0.94; 1.13]	
supervised aerobic	1	1	0.86 [0.70; 1.05]	1	1	0.99 [0.93; 1.05]	
supervised resistance	na	na	na	0	0	1.07 [0.96; 1.19]	
unsupervised aerobic	na	na	na	0	0	1.18 [0.86; 1.62]	

NOTE: NA: not available; prop: direct evidence proportion; NMA: network meta-analysis; FBG: fasting plasma glucose

Appendix 5-9 Subgroup analysis of diabetes duration in weight

Comparisons	diabe	on ≤6 (years)	diabetes duration >6 (years)			
	No. of direct comparisons		NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
supervised aerobic	na	na	na	1	1	1.09 [0.98; 1.22]
supervised resistance	na	na	na	0	0	1.06 [0.95; 1.20]
unsupervised aerobic	na	na	na	0	0	1.07 [0.95; 1.20]
vs. no exercise						
supervised aerobic	1	0.94	1.02 [0.95; 1.08]	3	0.72	0.97 [0.93; 1.02]
supervised resistance	1	0.78	0.98 [0.88; 1.09]	1	0.54	0.98 [0.93; 1.02]
unsupervised resistance	1	1	0.96 [0.90; 1.03]	na	na	na
vs. supervised aerobic						
supervised resistance	1	0.27	0.96 [0.85; 1.09]	2	0.74	1.00 [0.96; 1.05]
unsupervised resistance	0	0	0.95 [0.86; 1.04]	na	na	na
vs. supervised resistance			- · · · · · ·			
unsupervised resistance	0	0	0.98 [0.86; 1.12]	na	na	na

Appendix 5-10 Subgroup analysis of age in weight

Comparisons	A	ge<60 (years)	Age≥60 (years)			
	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
no exercise	2	0.56	1.07 [1.01; 1.13]	na	na	na	
supervised aerobic	1	0.26	1.05 [0.99; 1.11]	na	na	na	
supervised resistance	1	0.31	1.05 [0.99; 1.11]	na	na	na	
unsupervised aerobic	0	0	1.11 [1.04; 1.19]	na	na	na	
unsupervised resistance	0	0	1.03 [0.96; 1.12]	na	na	na	
vs. no exercise							
supervised aerobic	3	0.56	0.98 [0.95; 1.01]	3	1	1.01 [0.93; 1.08]	
supervised resistance	3	0.53	0.98 [0.94; 1.02]	na	na	na	
unsupervised aerobic	1	0.34	1.04 [1.00; 1.09]	na	na	na	
unsupervised resistance	1	0.76	0.97 [0.91; 1.03]	na	na	na	
vs. supervised aerobic							
supervised resistance	4	0.63	1.00 [0.97; 1.04]	na	na	na	
unsupervised aerobic	1	0.7	1.06 [1.02; 1.11]	na	na	na	
unsupervised resistance	0	0	0.99 [0.93; 1.06]	na	na	na	
vs. supervised resistance							
unsupervised aerobic	0	0	1.06 [1.01; 1.12]	na	na	na	
unsupervised resistance	0	0	0.99 [0.92; 1.06]	na	na	na	
vs. unsupervised aerobic							
unsupervised resistance	1	0.36	0.93 [0.87; 0.99]	na	na	na	
vs. anaerobic							
no exercise	na	na	na	0	0	1.04 [0.93; 1.17]	
supervised aerobic	na	na	na	3	1	1.05 [0.97; 1.14]	

Appendix 5-11 Subgroup analysis of study duration in weight

	Study	≤6 (month)	diabetes duration >6 (month)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
flexibility training	na	na	na	na	na	na
no exercise	1	1	1.09 [0.98; 1.22]	1	0.49	1.04 [0.97; 1.12]
supervised aerobic	0	0	1.08 [0.96; 1.20]	1	0.42	1.06 [0.98; 1.14]
supervised resistance	0	0	1.07 [0.95; 1.20]	1	0.5	1.05 [0.97; 1.13]
unsupervised aerobic	0	0	1.09 [0.96; 1.24]	0	0	1.15 [1.05; 1.26]
unsupervised resistance	0	0	1.05 [0.92; 1.18]	na	na	na
vs. no exercise						
supervised aerobic	4	0.76	0.98 [0.95; 1.02]	2	0.67	1.02 [0.96; 1.08]
supervised resistance	2	0.55	0.98 [0.94; 1.02]	1	0.5	1.01 [0.94; 1.08]
unsupervised aerobic	1	0.74	1.00 [0.94; 1.07]	0	0	1.11 [1.02; 1.20]
unsupervised resistance	1	0.8	0.96 [0.90; 1.02]	na	na	na
vs. supervised aerobic						
supervised resistance	3	0.69	1.00 [0.96; 1.04]	1	0.43	0.99 [0.92; 1.07]
unsupervised aerobic	0	0	1.02 [0.94; 1.10]	1	1	1.09 [1.04; 1.14]
unsupervised resistance	0	0	0.97 [0.91; 1.04]	na	na	na
vs. supervised resistance						
unsupervised aerobic	0	0	1.02 [0.94; 1.10]	0	0	1.10 [1.00; 1.20]
unsupervised resistance	0	0	0.98 [0.91; 1.05]	na	na	na
vs. unsupervised aerobic			. , ,			
unsupervised resistance	1	0.46	0.96 [0.89; 1.03]	na	na	na
vs. anaerobic			. , ,			
combined	0	0	0.98 [0.85; 1.12]	na	na	na
no exercise	0	0	1.07 [0.98; 1.17]	na	na	na
supervised aerobic	3	1	1.05 [0.97; 1.14]	na	na	na
supervised resistance	0	0	1.05 [0.96; 1.15]	na	na	na
unsupervised aerobic	0	0	1.07 [0.95; 1.19]	na	na	na
unsupervised resistance	0	0	1.02 [0.92; 1.14]	na	na	na

Appendix 5-12 Subgroup analysis of type of patients in weight

		Sede	ntary]	Non-sede	entary	
Comparisons	No. of direct comparisons	prop	NMA	95%-CI	No. of direct comparisons	prop	NMA CI	95%-
vs. Combined								
flexibility training	na	na		na	na	na		na
no exercise	1	0.44	1.04	[0.98; 1.11]	1	1	1.09 [0	.98; 1.22]
supervised aerobic	1	0.38	1.06	[0.99; 1.13]	0	0	1.06 [0	.94; 1.19]
supervised resistance	1	0.46	1.05	[0.97; 1.12]	0	0	1.06 [0	.94; 1.19]
unsupervised aerobic	0	0	1.03	[0.93; 1.14]	0	0	1.12 [0	.95; 1.32]
unsupervised resistance	na	na		na	0	0	1.05 [0	.93; 1.19]
vs. no exercise								_
supervised aerobic	3	0.81	1.01	[0.97; 1.06]	3	0.67	0.97 [0	.92; 1.01]
supervised resistance	2	0.58	1.00	[0.95; 1.06]	1	0.56	0.97 [0	.92; 1.02]
unsupervised aerobic	1	1	0.99	[0.92; 1.07]	0	0	1.02 [0	.90; 1.16]
unsupervised resistance	na	na		na	1	1	0.96 [0	.90; 1.03]
vs. supervised aerobic							-	•
supervised resistance	1	0.33	0.99	[0.93; 1.05]	3	0.76	1.00 [0	.96; 1.05]
unsupervised aerobic	0	0	0.98	[0.89; 1.07]	0	0	1.06 [0	.92; 1.21]
unsupervised resistance	na	na		na	0	0	_	.92; 1.08]
vs. supervised resistance							-	•
unsupervised aerobic	0	0	0.99	[0.90; 1.09]	0	0	1.05 [0	.92; 1.21]
unsupervised resistance	na	na		na	0	0	_	.91; 1.08]
vs. unsupervised aerobic							-	, ,
unsupervised resistance	na	na		na	1	1	0.94 [0	.84; 1.05]
vs. flexibility training								, .
no exercise	na	na		na	na	na		na
supervised aerobic	na	na		na	na	na		na
supervised resistance	na	na		na	na	na		na
vs. anaerobic								
combined	0	0	1.00	[0.89; 1.13]	0	0	0.98 [0	.82; 1.17]
no exercise	0	0		[0.94; 1.17]	0	0	_	.92; 1.23]
supervised aerobic	2	1		[0.96; 1.17]	1	1	_	.90; 1.18]
supervised resistance	0	0		[0.93; 1.18]	0	0	_	.90; 1.19]
unsupervised aerobic	0	0		[0.90; 1.19]	0	0	_	.90; 1.33]
unsupervised resistance	na	na		na	0	0	_	.88; 1.21]

NOTE: NA: not available; prop: direct evidence proportion; NMA: network meta-analysis

Appendix 5-13 Subgroup analysis of diabetes duration in SBP

	diabete	s duration	n ≤6 (years)	diabetes	duration	>6 (years)
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
no exercise	1	0.4	1.03 [0.98; 1.08]	1	1	1.00 [0.89; 1.12]
supervised aerobic	1	0.41	1.01 [0.96; 1.06]	0	0	0.95 [0.83; 1.09]
supervised resistance	1	0.41	0.99 [0.94; 1.04]	0	0	0.93 [0.80; 1.09]
unsupervised aerobic	0	0	1.02 [0.94; 1.09]	na	na	na
vs. no exercise						
supervised aerobic	4	0.75	0.98 [0.95; 1.01]	2	1	0.95 [0.88; 1.02]
supervised resistance	3	0.63	0.97 [0.93; 1.00]	0	0	0.93 [0.84; 1.04]
unsupervised aerobic	1	0.54	0.99 [0.93; 1.05]	na	na	na
vs. supervised aerobic						
supervised resistance	2	0.32	0.98 [0.94; 1.02]	2	1	0.98 [0.91; 1.06]
unsupervised aerobic	0	0	1.01 [0.94; 1.07]	na	na	na
vs. supervised resistance						
unsupervised aerobic	1	0.55	1.02 [0.96; 1.08]	na	na	na

Appendix 5-14 Subgroup analysis of age in SBP

	A	ge<60 ((years)	A	.ge≥60 (years)
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
no exercise	1	0.39	1.03 [0.98; 1.08]	1	1	1.00 [0.92; 1.09]
supervised aerobic	1	0.38	1.01 [0.96; 1.06]	0	0	0.89 [0.79; 1.01]
supervised resistance	1	0.38	0.99 [0.95; 1.04]	1	1	1.08 [0.96; 1.22]
unsupervised aerobic	0	0	0.99 [0.93; 1.05]	na	na	na
unsupervised resistance	0	0	0.97 [0.88; 1.07]	na	na	na
vs. no exercise						
supervised aerobic	5	0.72	0.98 [0.95; 1.01]	1	1	0.90 [0.82; 0.98]
supervised resistance	3	0.53	0.96 [0.93; 0.99]	na	na	na
unsupervised aerobic	2	0.73	0.96 [0.92; 1.00]	0	0	1.08 [0.94; 1.25]
unsupervised resistance	0	0	0.94 [0.86; 1.03]	na	na	na
vs. supervised aerobic			_			
supervised resistance	4	0.5	0.98 [0.95; 1.01]	na	na	na
unsupervised aerobic	0	0	0.98 [0.93; 1.03]	0	0	1.21 [1.02; 1.43]
unsupervised resistance	0	0	0.96 [0.87; 1.06]	na	na	na
vs. supervised resistance						
unsupervised aerobic	1	0.37	1.00 [0.95; 1.04]	na	na	na
unsupervised resistance	0	0	0.98 [0.89; 1.08]	na	na	na
vs. unsupervised aerobic						
unsupervised resistance	1	1	0.98 [0.91; 1.07]	na	na	na
vs. anaerobic						
no exercise	na	na	na	0	0	1.10 [0.95; 1.27]
supervised aerobic	na	na	na	0	0	1.10 [0.98; 1.24]
supervised resistance	na	na	na	2	1	0.99 [0.91; 1.07]
unsupervised aerobic	na	na	na	0	0	1.19 [0.99; 1.44]

Appendix 5-14 Subgroup analysis of study duration in SBP

	Study	duration	≤6 (month)	Study	Study duration >6 (month)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI		
vs. Combined								
flexibility training	na	na	na	na	na	na		
no exercise	1	0.67	1.04 [0.97; 1.12]	1	0.48	1.01 [0.96; 1.07]		
supervised aerobic	0	0	1.01 [0.93; 1.09]	1	0.47	1.00 [0.95; 1.06]		
supervised resistance	0	0	0.98 [0.90; 1.06]	1	0.49	1.02 [0.96; 1.07]		
unsupervised aerobic	1	0.39	1.00 [0.92; 1.08]	na	na	na		
unsupervised resistance	0	0	0.98 [0.88; 1.09]	na	na	na		
vs. no exercise								
supervised aerobic	4	0.82	0.97 [0.94; 1.00]	2	0.62	0.99 [0.94; 1.04]		
supervised resistance	2	0.55	0.94 [0.91; 0.97]	1	0.48	1.00 [0.95; 1.06]		
unsupervised aerobic	2	0.7	0.96 [0.92; 1.00]	na	na	na		
unsupervised resistance	0	0	0.94 [0.86; 1.03]	na	na	na		
vs. supervised aerobic								
supervised resistance	3	0.48	0.97 [0.94; 1.00]	1	0.46	1.02 [0.96; 1.07]		
unsupervised aerobic	0	0	0.99 [0.94; 1.04]	na	na	na		
unsupervised resistance	0	0	0.97 [0.89; 1.06]	na	na	na		
vs. supervised resistance								
unsupervised aerobic	1	0.38	1.02 [0.98; 1.07]	na	na	na		
unsupervised resistance	0	0	1.00 [0.92; 1.09]	na	na	na		
vs. unsupervised aerobic								
unsupervised resistance	1	1	0.98 [0.91; 1.06]	na	na	na		
vs. anaerobic								
combined	0	0	0.98 [0.87; 1.09]	na	na	na		
no exercise	0	0	1.02 [0.93; 1.11]	na	na	na		
supervised aerobic	2	1	0.99 [0.91; 1.07]	na	na	na		
supervised resistance	0	0	0.96 [0.87; 1.05]	na	na	na		
unsupervised aerobic	0	0	0.97 [0.89; 1.07]	na	na	na		
unsupervised resistance	0	0	0.96 [0.85; 1.08]	na	na	na		

Appendix 5-15 Subgroup analysis of type of patients in SBP

		Sedenta	ary		Non-sed	entary
Comparisons	No. of direct comparisons	prop	NMA 95%- CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
flexibility training	na	na	na	na	na	na
no exercise	na	na	na	2	0.47	1.03 [0.99; 1.07]
supervised aerobic	na	na	na	1	0.33	1.01 [0.97; 1.05]
supervised resistance	na	na	na	1	0.34	0.99 [0.95; 1.03]
unsupervised aerobic	na	na	na	1	0.21	1.02 [0.97; 1.08]
unsupervised resistance	na	na	na	0	0	1.01 [0.91; 1.11]
vs. no exercise						
supervised aerobic	2	0.65	0.93 [0.86; 1.01]	4	0.78	0.98 [0.96; 1.01]
supervised resistance	1	0.61	0.96 [0.88; 1.04]	2	0.55	0.96 [0.93; 0.99]
unsupervised aerobic	1	1	0.92 [0.84; 1.00]	1	0.47	0.99 [0.95; 1.05]
unsupervised resistance	na	na	na	0	0	0.98 [0.89; 1.07]
vs. supervised aerobic						
supervised resistance	1	0.74	1.03 [0.96; 1.11]	3	0.36	0.98 [0.94; 1.01]
unsupervised aerobic	0	0	0.98 [0.87; 1.11]	0	0	1.01 [0.96; 1.07]
unsupervised resistance	na	na	na	0	0	1.00 [0.90; 1.09]
vs. supervised resistance						
unsupervised aerobic	0	0	0.96 [0.85; 1.08]	1	0.48	1.04 [0.98; 1.09]
unsupervised resistance	na	na	na	0	0	1.02 [0.93; 1.12]
vs. unsupervised aerobic						
unsupervised resistance	na	na	na	0	0	0.98 [0.91; 1.06]
vs. flexibility training						
no exercise	na	na	na	na	na	na
supervised aerobic	na	na	na	na	na	na
supervised resistance	na	na	na	na	na	na
vs. anaerobic						
combined				0	0	0.97 [0.85; 1.10]
no exercise	0	0	1.07 [0.91; 1.25]	0	0	1.00 [0.88; 1.12]
supervised aerobic	1	1	0.99 [0.87; 1.14]	1	1	0.98 [0.87; 1.10]
supervised resistance	0	0	1.02 [0.88; 1.19]	0	0	0.96 [0.84; 1.08]
unsupervised aerobic	0	0	0.98 [0.82; 1.17]	0	0	0.99 [0.87; 1.13]
unsupervised resistance	na	na	na	0	0	0.97 [0.84; 1.13]

Appendix 5-16 Subgroup analysis of diabetes duration in DBP

	diabete	s duration	n ≤6 (years)	diabetes duration >6 (years)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
flexibility training	na	na	na	na	na	na	
no exercise	1	0.42	1.01 [0.96; 1.07]	1	1	0.97 [0.88; 1.08]	
supervised aerobic	1	0.41	0.98 [0.93; 1.03]	0	0	0.96 [0.86; 1.07]	
supervised resistance	1	0.44	1.00 [0.94; 1.06]	0	0	0.97 [0.86; 1.10]	
vs. no exercise							
supervised aerobic	4	0.76	0.97 [0.93; 1.01]	2	1	0.99 [0.95; 1.03]	
supervised resistance	2	0.54	0.99 [0.95; 1.04]	0	0	1.00 [0.93; 1.07]	
vs. supervised aerobic			- · · · · · · · ·			- · · · · · · · · · · · · · · · · · · ·	
supervised resistance	2	0.43	1.02 [0.97; 1.07]	2	1	1.01 [0.95; 1.07]	

Appendix 6-14 subgroup analysis of age in DBP

	A	.ge < 60 (years)	Age≥60 (years)			
Comparisons	No. of direct comparisons prop		NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
no exercise	1	0.39	1.02 [0.96; 1.08]	1	1	0.97 [0.88; 1.08]	
supervised aerobic	1	0.38	0.98 [0.93; 1.05]	0	0	0.97 [0.85; 1.10]	
supervised resistance	1	0.39	0.98 [0.92; 1.05]	na	na	na	
unsupervised aerobic	0	0	0.96 [0.89; 1.04]	na	na	na	
unsupervised resistance	0	0	0.99 [0.87; 1.13]	na	na	na	
vs. no exercise							
supervised aerobic	5	0.7	0.96 [0.93; 1.00]	1	1	1.00 [0.92; 1.07]	
supervised resistance	3	0.51	0.96 [0.93; 1.00]	na	na	na	
unsupervised aerobic	2	0.74	0.94 [0.89; 1.00]	na	na	na	
unsupervised resistance	0	0	0.97 [0.86; 1.09]	na	na	na	
vs. supervised aerobic							
supervised resistance	4	0.52	1.00 [0.96; 1.04]	na	na	na	
unsupervised aerobic	0	0	0.98 [0.92; 1.05]	na	na	na	
unsupervised resistance	0	0	1.01 [0.89; 1.14]	na	na	na	
vs. supervised resistance							
unsupervised aerobic	1	0.36	0.98 [0.92; 1.04]	na	na	na	
unsupervised resistance	0	0	1.01 [0.89; 1.14]	na	na	na	
vs. unsupervised aerobic							
unsupervised resistance	1	1	1.03 [0.92; 1.14]	na	na	na	
vs. anaerobic			- ·				
combined	na	na	na	0	0	0.96 [0.83; 1.10]	
no exercise	na	na	na	0	0	0.93 [0.85; 1.02]	
supervised aerobic	na	na	na	2	1	0.92 [0.88; 0.97]	

Appendix 6-15 subgroup analysis of study duration in DBP

	Study o	duration ≤	6 (month)	Study	duration	>6 (month)
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
no exercise	1	1	0.97 [0.85; 1.12]	1	0.48	1.00 [0.96; 1.04]
supervised aerobic	0	0	0.93 [0.80; 1.08]	1	0.46	0.99 [0.95; 1.03]
supervised resistance	0	0	0.92 [0.79; 1.07]	1	0.49	1.00 [0.96; 1.04]
unsupervised aerobic	0	0	0.91 [0.79; 1.07]	na	na	na
unsupervised resistance	0	0	0.94 [0.78; 1.14]	na	na	na
vs. no exercise						
supervised aerobic	4	0.77	0.96 [0.91; 1.01]	2	0.63	0.99 [0.95; 1.03]
supervised resistance	2	0.51	0.95 [0.90; 1.00]	1	0.48	1.00 [0.96; 1.04]
unsupervised aerobic	2	0.75	0.94 [0.88; 1.00]	na	na	na
unsupervised resistance	0	0	0.97 [0.85; 1.10]	na	na	na
vs. supervised aerobic						
supervised resistance	3	0.56	0.99 [0.93; 1.05]	1	0.46	1.01 [0.97; 1.06]
unsupervised aerobic	0	0	0.98 [0.91; 1.06]	na	na	na
unsupervised resistance	0	0	1.01 [0.88; 1.16]	na	na	na
vs. supervised resistance						
unsupervised aerobic	1	0.41	0.99 [0.92; 1.07]	na	na	na
unsupervised resistance	0	0	1.02 [0.89; 1.17]	na	na	na
vs. unsupervised aerobic						
unsupervised resistance	1	1	1.03 [0.91; 1.15]	na	na	na
vs. anaerobic						
combined	0	0	1.00 [0.84; 1.19]	na	na	na
no exercise	0	0	0.97 [0.88; 1.08]	na	na	na
supervised aerobic	2	1	0.93 [0.85; 1.02]	na	na	na
supervised resistance	0	0	0.92 [0.83; 1.02]	na	na	na
unsupervised aerobic	0	0	0.92 [0.81; 1.03]	na	na	na
unsupervised resistance	0	0	0.94 [0.80; 1.11]	na	na	na

Appendix 5- Subgroup analysis of type of patients in DBP

		Sedent	ary			Non-sedentary			
Comparisons	No. of direct comparisons	prop	NMA	95%-CI	No. of direct comparisons	prop	NMA 95%-CI		
vs. Combined									
flexibility training	na	na		na	na	na	na		
no exercise	na	na		na	2	0.49	1.01 [0.97; 1.06]		
supervised aerobic	na	na		na	1	0.35	0.99 [0.94; 1.04]		
supervised resistance	na	na		na	1	0.38	1.02 [0.97; 1.07]		
unsupervised aerobic	na	na		na	0	0	0.99 [0.92; 1.07]		
unsupervised resistance	na	na		na	0	0	1.03 [0.92; 1.16]		
vs. no exercise									
supervised aerobic	1	0.32	0.98 [0	.89; 1.06]	5	0.77	0.97 [0.94; 1.00]		
supervised resistance	1	0.83	1.01 [0	.94; 1.08]	2	0.50	0.96 [0.93; 1.00]		
unsupervised aerobic	0	0	0.88 [0	.84; 0.92]	1	0.56	0.99 [0.93; 1.06]		
unsupervised resistance	na	na		na	0	0	1.02 [0.91; 1.14]		
vs. supervised aerobic									
supervised resistance	1	0.85	1.03 [0	.97; 1.10]	3	0.43	1.01 [0.97; 1.05]		
unsupervised aerobic	0	0	1.11 [1	.01; 1.23]	0	0	0.98 [0.91; 1.05]		
unsupervised resistance	na	na		na	0	0	0.95 [085; 1.07]		
vs. supervised resistance									
unsupervised aerobic	0	0	1.15 [1	.06; 1.25]	1	0.53	0.97 [0.91; 1.03]		
unsupervised resistance	na	na	•	na	0	0	0.94 [0.84; 1.06]		
vs. unsupervised aerobic									
unsupervised resistance	na	na		na	1	1	0.97 [0.89; 1.07]		
vs. anaerobic									
combined	na	na		na	0	0	1.07 [0.98; 1.17]		
no exercise	0	0	1.01 [0	.87; 1.18]	0	0	1.06 [0.97; 1.15]		
supervised aerobic	1	1	_	.91; 1.18]	1	1	1.09 [1.01; 1.18]		
supervised resistance	0	0	_	.87; 1.16]	0	0	1.10 [1.01; 1.20]		
unsupervised aerobic	0	0	1.16 [0	.98; 1.36]	0	0	1.06 [0.96; 1.18]		
unsupervised resistance	na	na		na	0	0	1.04 [0.90; 1.19]		

Appendix 6-16 subgroup analysis of diabetes duration in TC

	diabete	es duration	n ≤6 (years)	diabete	s duration	>6 (years)
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
flexibility training	na	na	na	1	0.44	0.93 [0.83; 1.05]
no exercise	na	na	na	2	0.75	0.99 [0.92; 1.07]
supervised aerobic	na	na	na	1	0.25	0.88 [0.80; 0.96]
supervised resistance	na	na	na	1	0.38	0.87 [0.78; 0.97]
vs. no exercise						
supervised aerobic	1	0.52	0.91 [0.80; 1.04]	2	0.69	0.88 [0.81; 0.96]
supervised resistance	1	0.61	0.86 [0.79; 0.93]	0	0	0.88 [0.78; 0.98]
unsupervised aerobic	1	0.62	0.91 [0.84; 0.98]	na	na	na
vs. supervised aerobic						
supervised resistance	1	0.57	0.94 [0.82; 1.07]	2	0.64	
unsupervised aerobic	0	0	0.99 [0.86; 1.14]	na	na	na
vs. supervised resistance						
unsupervised aerobic	1	0.68	1.06 [0.98; 1.14]	na	na	na
vs. flexibility training						
no exercise	na	na	na	0	0	1.07 [0.94; 1.21]
supervised aerobic	na	na	na	1	0.4	0.94 [0.84; 1.06]
supervised resistance	na	na	na	1	0.45	0.94 [0.83; 1.05]

Appendix 6-17 subgroup analysis of age in TC

	A	age≤60 (years)	Age≥60 (years)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
flexibility training	1	0.45	0.96 [0.86; 1.06]				
no exercise	1	0.42	1.05 [0.96; 1.14]	1	1	0.92 [0.85; 1.00]	
supervised aerobic	1	0.3	0.92 [0.85; 1.00]	0	0	0.81 [0.72; 0.92]	
supervised resistance	1	0.32	0.91 [0.84; 0.99]	na	na	na	
unsupervised aerobic	0	0	1.00 [0.91; 1.10]	na	na	na	
vs. no exercise							
supervised aerobic	2	0.48	0.88 [0.83; 0.94]	2	1	0.88 [0.81; 0.96]	
supervised resistance	1	0.39	0.87 [0.82; 0.92]	na	na	na	
unsupervised aerobic	2	0.7	0.95 [0.90; 1.01]	na	na	na	
vs. supervised aerobic							
supervised resistance	3	0.53	0.98 [0.92; 1.05]	na	na	na	
unsupervised aerobic	2	0.1	1.08 [1.00; 1.17]	na	na	na	
vs. supervised resistance							
unsupervised aerobic	1	0.52	1.10 [1.02; 1.17]	na	na	na	
vs. flexibility training							
no exercise	0	0	1.09 [0.98; 1.21]	na	na	na	
supervised aerobic	1	0.39	0.96 [0.87; 1.06]	na	na	na	
supervised resistance	1	0.41	0.95 [0.86; 1.05]	na	na	na	
unsupervised aerobic	0	0	1.04 [0.93; 1.16]	na	na	na	

Appendix 6-18 subgroup analysis of study duration in TC

	Study	duration	≤6 (month)	diabetes	duration	>6 (month)
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
flexibility training	1	0.41	0.93 [0.84; 1.03]	na	na	na
no exercise	2	0.73	0.97 [0.92; 1.03]	na	na	na
supervised aerobic	1	0.21	0.89 [0.83; 0.95]	na	na	na
supervised resistance	1	0.23	0.86 [0.80; 0.93]	na	na	na
unsupervised aerobic	0	0	0.93 [0.85; 1.01]	na	na	na
vs. no exercise						
supervised aerobic	3	0.59	0.91 [0.86; 0.97]	1	1	0.85 [0.76; 0.94]
supervised resistance	1	0.33	0.89 [0.84; 0.94]	na	na	na
unsupervised aerobic	2	0.71	0.95 [0.89; 1.02]	0	0	1.02 [0.77; 1.34]
vs. supervised aerobic						
supervised resistance	3	0.52	0.97 [0.91; 1.04]	na	na	na
unsupervised aerobic	0	0	1.05 [0.96; 1.14]	2	1	1.20 [0.93; 1.55]
vs. supervised resistance						
unsupervised aerobic	1	0.51	1.07 [1.00; 1.16]	na	na	na
vs. flexibility training						
no exercise	0	0	1.05 [0.94; 1.16]	na	na	na
supervised aerobic	1	0.38	0.95 [0.86; 1.06]	na	na	na
supervised resistance	1	0.40	0.93 [0.84; 1.03]	na	na	na

Appendix 5- Subgroup analysis of type of patients in TC

		Seder	ntary		N	lon-sede	entary	
Comparisons	No. of direct comparisons	prop	NMA	95%-CI	No. of direct comparisons	prop	NMA	95%-CI
vs. Combined								
flexibility training	na	na		na	1	0.41	0.92 [0.	.83; 1.02]
no exercise	na	na		na	2	0.79	0.97 [0.	.92; 1.02]
supervised aerobic	na	na		na	1	0.25	0.88 [0.	.82; 0.95]
supervised resistance	na	na		na	1	0.23	0.84 [0.	.78; 0.90]
unsupervised aerobic	na	na		na	0	0	0.89 [0.	.82; 0.97]
unsupervised resistance	na	na		na	na	na	1	na
vs. no exercise								
supervised aerobic	3	1	0.89 [0	.83; 0.95]	1	0.41	0.91 [0.	.85; 0.98]
supervised resistance	0	0	0.96 [0	.83; 1.11]	1	0.42	0.86 [0.	81; 0.92]
unsupervised aerobic	1	1	1.03 [0	.93; 1.14]	1	0.53	0.92 [0.	85; 0.99]
unsupervised resistance	na	na		na	na	na	1	na
vs. supervised aerobic								
supervised resistance	1	1	1.08 [0	.95; 1.23]	2	0.42	0.95 [0.	.88; 1.02]
unsupervised aerobic	0	0	1.16 [1	.02; 1.31]	2	0.13	1.01 [0.	.92; 1.11]
unsupervised resistance	na	na		na	na	na	1	na
vs. supervised resistance								
unsupervised aerobic	0	0	1.08 [0	.90; 1.29]	1	0.61	1.07 [0.	.99; 1.15]
unsupervised resistance	na	na		na	na	na	1	na
vs. unsupervised aerobic								
unsupervised resistance	na	na		na	na	na	1	na
vs. flexibility training								
no exercise	na	na		na	0	0	1.05 [0.	.95; 1.17]
supervised aerobic	na	na		na	1	0.4	0.96 [0.	.87; 1.06]
supervised resistance	na	na		na	1	0.41	0.91 [0.	.83; 1.01]

Appendix 6-19 subgroup analysis of diabetes duration in TG

	diabetes	duration	n ≤6 (years)	diabetes duration >6 (years)				
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%- CI		
vs. Combined								
no exercise	2	0.43	1.40 [1.22; 1.61]	2	1	1.17 [0.94; 1.46]		
supervised aerobic	2	0.47	1.24 [1.07; 1.44]	0	0	1.00 [0.77; 1.30]		
supervised resistance	2	0.41	1.21 [1.05; 1.39]	0	0	1.94 [0.93; 4.03]		
unsupervised aerobic	0	0	1.28 [1.09; 1.52]	na	na	na		
vs. no exercise								
supervised aerobic	3	0.5	0.88 [0.78; 1.01]	2	1	0.85 [0.74; 0.98]		
supervised resistance	3	0.56	0.86 [0.78; 0.95]	0	0	1.66 [0.83; 3.33]		
unsupervised aerobic	1	0.51	0.92 [0.81; 1.03]	na	na	na		
vs. supervised aerobic								
supervised resistance	3	0.41	0.97 [0.85; 1.12]	1	1	1.94 [0.98; 3.85]		
unsupervised aerobic	0	0	1.04 [0.88; 1.22]	na	na	na		
vs. supervised resistance								
unsupervised aerobic	1	0.7	1.06 [0.95; 1.18]	na	na	na		

Appendix 6-20 subgroup analysis of age in TG

	1	Age < 60 (years)	Age≥60 (years)				
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI		
vs. combined								
flexibility training								
no exercise	3	0.56	1.35 [1.20; 1.52]	1	1	0.98 [0.57; 1.69]		
supervised aerobic	2	0.38	1.19 [1.04; 1.37]	0	0	0.82 [0.47; 1.46]		
supervised resistance	2	0.34	1.20 [1.05; 1.36]	na	na	na		
unsupervised aerobic	0	0	1.29 [1.11; 1.49]	na	na	na		
vs. no exercise								
supervised aerobic	5	0.61	0.88 [0.79; 0.98]	1	1	0.84 [0.71; 1.00]		
supervised resistance	3	0.5	0.89 [0.81; 0.97]	na	na	na		
unsupervised aerobic	2	0.62	0.95 [0.86; 1.06]	na	na	na		
vs. supervised aerobic								
supervised resistance	4	0.36	1.00 [0.89; 1.13]	na	na	na		
unsupervised aerobic	1	0.01	1.08 [0.94; 1.24]	na	na	na		
vs. supervised resistance								
unsupervised aerobic	1	0.63	1.08 [0.97; 1.19]	na	na	na		

Appendix 6-21 subgroup analysis of study duration in TG

	Study	duration	≤6 (month)	Study duration >6 (month)			
Comparisons	No. of direct comparisons	prop	NMA 95%- CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
no exercise	2	1.00	1.17 [0.94; 1.46]				
supervised aerobic	0	0	1.02 [0.77; 1.35]	2	0.43	1.21 [1.05; 1.41]	
supervised resistance	0	0	1.03 [0.80; 1.33]	2	0.49	1.23 [1.05; 1.43]	
unsupervised aerobic	0	0	1.11 [0.87;1.42]	0	0	2.31 [0.42; 12.81]	
vs. no exercise							
supervised aerobic	3	0.86	0.87 [0.74; 1.04]	3	0.73	0.86 [0.77; 0.96]	
supervised resistance	1	0.52	0.88 [0.78; 0.99]	2	0.45	0.87 [0.75; 1.00]	
unsupervised aerobic	2	0.70	0.95 [0.85;1.06]	0	0	1.63 [0.30; 9.04]	
vs. supervised aerobic							
supervised resistance	2	0.20	1.01 [0.83; 1.23]	2	0.43	1.01 [0.87; 1.17]	
unsupervised aerobic	0	0	1.08 [0.89; 1.32]	1	1	1.90 [0.34; 10.48]	
vs. supervised resistance							
unsupervised aerobic	1	0.71	1.08 [0.96;1.20]	0	0	1.88 [0.34; 10.45]	

Appendix 5- Subgroup analysis of type of patients in TG

		Sedent	ary	N	Non-sed	entary
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI
vs. Combined						
no exercise	1	0.43	1.40 [1.14; 1.70]	3	0.66	1.31 [1.13; 1.51]
supervised aerobic	1	0.39	1.22 [1.00; 1.49]	1	0.34	1.13 [0.95; 1.36]
supervised resistance	1	0.49	1.24 [1.00; 1.54]	1	0.26	1.14 [0.97; 1.34]
unsupervised aerobic	0	0	1.45 [1.08; 1.93]	0	0	1.21 [1.01; 1.44]
vs. no exercise						
supervised aerobic	4	0.84	0.87 [0.77; 0.98]	2	0.60	0.87 [0.75; 1.00]
supervised resistance	1	0.41	0.89 [0.73; 1.08]	2	0.55	0.87 [0.78; 0.97]
unsupervised aerobic	1	1	1.04 [0.84; 1.28]	1	0.54	0.92 [0.82; 1.04]
unsupervised resistance						
vs. supervised aerobic						
supervised resistance	2	0.44	1.02 [0.84; 1.24]	2	0.33	1.00 [0.85; 1.18]
unsupervised aerobic	0	0	1.19 [0.93; 1.52]	1	0.01	1.07 [0.89; 1.27]
vs. supervised resistance			- · · · · · · · · · · · · · · · · · · ·			- · · · · · ·
unsupervised aerobic	0	0	1.16 [0.87; 1.55]	1	0.72	1.06 [0.95; 1.18]

Appendix 6-22 subgroup analysis of diabetes duration in LDL

	diabete	s duratio	on ≤6 (years)	diabetes duration >6 (years)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. combined							
flexibility training	na	na	na	1	0.46	0.91 [0.68; 1.22]	
no exercise	1	0.44	1.03 [0.92; 1.14]	2	0.67	1.14 [0.91; 1.44]	
supervised aerobic	1	0.42	0.98 [0.88; 1.10]	1	0.31	0.92 [0.73; 1.16]	
supervised resistance	1	0.48	1.03 [0.92; 1.16]	1	0.41	0.85 [0.65; 1.11]	
vs. no exercise							
supervised aerobic	2	0.8	0.96 [0.89; 1.03]	2	0.67	0.81 [0.64; 1.02]	
supervised resistance	1	0.42	1.00 [0.90; 1.12]	0	0	0.74 [0.55; 1.00]	
vs. supervised aerobic							
supervised resistance	2	0.44	1.05 [0.94; 1.16]	2	0.62	0.92 [0.72; 1.17]	
vs. flexibility training							
no exercise	na	na	na	0	0	1.25 [0.90; 1.74]	
supervised aerobic	na	na	na	1	0.41	1.01 [0.76; 1.34]	
supervised resistance	na	na	na	1	0.45	0.93 [0.70; 1.24]	

Appendix 6-23 subgroup analysis of age in LDL

		Age < 60	(years)	Age≥60 (years)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
flexibility training	1	0.42	0.98 [0.80; 1.20]	na	na	na	
no exercise	2	0.48	1.13 [0.98; 1.29]	1	1	0.87 [0.72; 1.04]	
supervised aerobic	2	0.38	1.00 [0.88; 1.14]	0	0	0.70 [0.55; 0.90]	
supervised resistance	2	0.45	0.97 [0.85; 1.12]	na	na	na	
unsupervised aerobic	0	0	1.21 [0.97; 1.52]	na	na	na	
unsupervised resistance	0	0	1.26 [0.91; 1.76]	na	na	na	
vs. no exercise							
supervised aerobic	4	0.64	0.89 [0.79; 0.99]	1	1	0.81 [0.68; 0.96]	
supervised resistance	1	0.25	0.86 [0.75; 1.00]	na	na	na	
unsupervised aerobic	1	0.48	1.08 [0.88; 1.31]	na	na	na	
unsupervised resistance	0	0	1.12 [0.82; 1.54]	na	na	na	
vs. supervised aerobic							
supervised resistance	4	0.56	0.97 [0.86; 1.11]	na	na	na	
unsupervised aerobic	2	0.6	1.22 [1.00; 1.48]	na	na	na	
unsupervised resistance	0	0	1.26 [0.92; 1.73]	na	na	na	
vs. supervised resistance							
unsupervised aerobic	0	0	1.25 [0.99; 1.56]	na	na	na	
unsupervised resistance	0	0	1.30 [0.93; 1.81]	na	na	na	
vs. unsupervised aerobic							
unsupervised resistance	1	1	1.04 [0.81; 1.33]	na	na	na	
vs. flexibility training							
no exercise	0	0	1.15 [0.93; 1.43]	na	na	na	
supervised aerobic	1	0.36	1.02 [0.83; 1.25]	na	na	na	
supervised resistance	1	0.39	1.00 [0.81; 1.22]	na	na	na	
unsupervised aerobic	0	0	1.24 [0.94; 1.64]	na	na	na	
unsupervised resistance	0	0	1.29 [0.89; 1.87]	na	na	na	

Appendix 6-24 subgroup analysis of study duration in LDL

	Study	duration <	≤6 (month)	Study duration >6 (month)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. combined							
flexibility training	1	0.46	0.93 [0.72; 1.20]	na	na	na	
no exercise	2	0.62	1.11 [0.92; 1.35]	1	0.47	1.03 [0.92; 1.15]	
supervised aerobic	1	0.28	0.95 [0.78; 1.16]	1	0.46	0.97 [0.87; 1.09]	
supervised resistance	1	0.38	0.86 [0.69; 1.09]	1	0.49	1.03 [0.92; 1.16]	
unsupervised aerobic	0	0	1.09 [0.73; 1.64]	0	0	1.29 [1.06; 1.55]	
unsupervised resistance	0	0	1.14 [0.68; 1.90]	na	na	na	
vs. no exercise							
supervised aerobic	3	0.77	0.86 [0.72; 1.02]	2	0.66	0.95 [0.86; 1.04]	
supervised resistance	0	0	0.78 [0.61; 0.99]	1	0.47	1.00 [0.90; 1.12]	
unsupervised aerobic	1	1	0.98 [0.69; 1.40]	0	0	1.25 [1.04; 1.49]	
unsupervised resistance	0	0	1.02 [0.63; 1.64]	na	na	na	
vs. supervised aerobic							
supervised resistance	3	0.66	0.91 [0.74; 1.11]	1	0.45	1.06 [0.95; 1.19]	
unsupervised aerobic	0	0	1.15 [0.77; 1.70]	2	1.00	1.32 [1.13; 1.54]	
unsupervised resistance	0	0	1.19 [0.72; 1.98]	na	na	na	
vs. supervised resistance							
unsupervised aerobic	0	0	1.27 [0.82; 1.94]	0	0	1.24 [1.03; 1.50]	
unsupervised resistance	0	0	1.31 [0.77; 2.24]	na	na	na	
vs. unsupervised aerobic							
unsupervised resistance	1	1	1.04 [0.76; 1.43]	na	na	na	
vs. flexibility training							
no exercise	0	0	1.20 [0.91; 1.59]	na	na	na	
supervised aerobic	1	0.4	1.03 [0.80; 1.32]	na	na	na	
supervised resistance	1	0.44	0.93 [0.72; 1.21]	na	na	na	

Appendix 5- Subgroup analysis of type of patients in LDL

		Sedenta	ry		Non-sed	entary	
Comparisons	No. of direct comparisons	prop	NMA 95%	-CI No. of direct comparisons	prop	NMA CI	95%-
vs. Combined							
flexibility training	na	na	na	1	0.41	0.96 [0.	75; 1.24]
no exercise	na	na	na	3	0.63	1.06 [0.	90; 1.25]
supervised aerobic	na	na	na	2	0.41	0.99 [0.	83; 1.17]
supervised resistance	na	na	na	2	0.46	0.94 [0.	79; 1.12]
unsupervised aerobic	na	na	na	0	0	1.28 [0.	91; 1.81]
unsupervised resistance	na	na	na	0	0	1.33 [0.	83; 2.15]
vs. no exercise							
supervised aerobic	3	1	0.89 [0.83; 0.9	2 2	0.50	0.93 [0.	78; 1.11]
supervised resistance	0	0	0.96 [0.77; 1.2	20] 1	0.29	0.89 [0.	73; 1.08]
unsupervised aerobic	1	1	0.98 [0.84; 1.1	5] 0	0	1.21 [0.	85; 1.71]
unsupervised resistance	na	na	na	0	0	1.25 [0.	77; 2.03]
vs. supervised aerobic							
supervised resistance	1	1	1.07 [0.87; 1.3	32] 3	0.51	0.95 [0.	80; 1.14]
unsupervised aerobic	0	0	1.10 [0.92; 1.3	31] 2	1.00	1.30 [0.	96; 1.75]
unsupervised resistance	na	na	na	0	0	1.35 [0.	86; 2.11]
vs. supervised resistance							
unsupervised aerobic	0	0	1.03 [0.78; 1.3	35] 0	0	1.36 [0.	96; 1.93]
unsupervised resistance	na	na	na	0	0	1.42 [0.	88; 2.29]
vs. unsupervised aerobic							
unsupervised resistance	na	na	na	0	0	1.04 [0.	75; 1.44]
vs. flexibility training							
no exercise	na	na	na	0	0	1.10 [0.	84; 1.45]
supervised aerobic	na	na	na	1	0.38	1.02 [0.	80; 1.31]
supervised resistance	na	na	na	1	0.4	0.98 [0.	76; 1.25]

Appendix 6-25 subgroup analysis of diabetes duration in HDL

	diabetes	duratio	n ≤6 (years)	diabetes duration >6 (years)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
flexibility training	na	na	na	1	0.41	0.94 [0.85; 1.04]	
no exercise	1	0.42	0.96 [0.82; 1.12]	2	0.84	1.03 [0.97; 1.09]	
supervised aerobic	1	0.44	0.91 [0.78; 1.06]	1	0.25	0.97 [0.90; 1.05]	
supervised resistance	1	0.44	0.98 [0.84; 1.14]	1	0.44	0.85 [0.78; 0.93]	
unsupervised aerobic	0	0	0.98 [0.77; 1.23]	na	na	na	
vs. no exercise							
supervised aerobic	2	0.62	0.95 [0.84; 1.07]	2	0.56	0.94 [0.87; 1.02]	
supervised resistance	2	0.5	1.02 [0.90; 1.15]	0	0	0.83 [0.75; 0.91]	
unsupervised aerobic	1	0.52	1.02 [0.83; 1.24]	na	na	na	
vs. supervised aerobic							
supervised resistance	2	0.46	1.07 [0.94; 1.23]	2	0.61	0.88 [0.81; 0.95]	
unsupervised aerobic	0	0	1.07 [0.86; 1.34]	na	na	na	
vs. supervised resistance							
unsupervised aerobic	1	0.59	1.00 [0.82; 1.22]	na	na	na	
vs. flexibility training							
no exercise	na	na	na	0	0	1.09 [0.98; 1.22]	
supervised aerobic	na	na	na	1	0.38	1.03 [0.94; 1.14]	
supervised resistance	na	na	na	1	0.52	0.90 [0.82; 0.99]	

NOTE: NA: not available; prop: direct evidence proportion; NMA: network meta-analysis; HDL:

high-density lipoprotein cholesterol

Appendix 6-25 subgroup analysis of study duration in HDL

	Study	duration	≤6 (month)	Study duration >6 (month)			
Comparisons	No. of direct comparisons	prop	NMA 95%-CI	No. of direct comparisons	prop	NMA 95%-CI	
vs. Combined							
flexibility training	1	0.42	0.94 [0.82; 1.07]	na	na	na	
no exercise	2	0.6	1.00 [0.91; 1.11]	1	0.46	0.92 [0.84; 1.00]	
supervised aerobic	1	0.25	0.92 [0.83; 1.02]	1	0.48	0.97 [0.89; 1.05]	
supervised resistance	1	0.34	0.89 [0.80; 0.99]	1	0.51	0.96 [0.88; 1.04]	
unsupervised aerobic	0	0	0.98 [0.84; 1.14]	0	0	0.72 [0.34; 1.50]	
unsupervised resistance	0	0	0.90 [0.70; 1.17]	na	na	na	
vs. no exercise							
supervised aerobic	3	0.67	0.91 [0.84; 1.00]	2	0.63	1.05 [0.97; 1.13]	
supervised resistance	1	0.19	0.89 [0.80; 0.98]	1	0.45	1.04 [0.95; 1.13]	
unsupervised aerobic	2	0.74	0.98 [0.86; 1.11]	0	0	0.78 [0.37; 1.62]	
unsupervised resistance	0	0	0.90 [0.71; 1.15]	na	na	na	
vs. supervised aerobic							
supervised resistance	3	0.53	0.97 [0.88; 1.07]	1	0.47	0.99 [0.91; 1.08]	
unsupervised aerobic	0	0	1.07 [0.92; 1.23]	1	1	0.74 [0.36; 1.54]	
unsupervised resistance	0	0	0.99 [0.76; 1.27]	na	na	na	
vs. supervised resistance							
unsupervised aerobic	1	0.41	1.10 [0.96; 1.27]	0	0	0.75 [0.36; 1.56]	
unsupervised resistance	0	0	1.02 [0.79; 1.31]	na	na	na	
vs. unsupervised aerobic							
unsupervised resistance	1	1	0.92 [0.75; 1.14]	na	na	na	
vs. flexibility training							
no exercise	0	0	1.07 [0.93; 1.23]	na	na	na	
supervised aerobic	1	0.39	0.98 [0.86; 1.11]	na	na	na	
supervised resistance	1	0.46	0.95 [0.83; 1.08]	na	na	na	

NOTE: NA: not available; prop: direct evidence proportion; NMA: network meta-analysis; HDL:

high-density lipoprotein cholesterol

Appendix 5- Subgroup analysis of type of patients in HDL

		Sedenta	ıry		Non-sedentary				
Comparisons	No. of direct comparisons	prop	nma 95%-CI	No. of direct comparisons	prop	nma	95%-CI		
vs. Combined									
flexibility training	na	na	na	1	0.38	0.97 [0.86; 1.09]		
no exercise	na	na	na	3	0.63	0.96 [0.89; 1.04]		
supervised aerobic	na	na	na	2	0.4	0.97 [0.90; 1.05]		
supervised resistance	na	na	na	2	0.43	0.92 [0.85; 1.00]		
unsupervised aerobic	na	na	na	0	0	0.93 [0.79; 1.10]		
unsupervised resistance	na	na	na	0	0	0.86 [0.67; 1.11]		
vs. no exercise									
supervised aerobic	3	1	0.92 [0.78; 1.08]	2	0.43	1.01 [0.93; 1.10]		
supervised resistance	0	0	0.92 [0.66; 1.28]	2	0.35	0.95 [0.88; 1.04]		
unsupervised aerobic	1	1	1.02 [0.77; 1.35]	1	0.47	0.97 [0.83; 1.14]		
unsupervised resistance	na	na	na	0	0	0.90 [0.70; 1.15]		
vs. supervised aerobic									
supervised resistance	1	1	1.00 [0.75; 1.34]	3	0.48	0.95 [0.87; 1.03]		
unsupervised aerobic	0	0	1.11 [0.81; 1.53]	1	0.05	0.96 [0.82; 1.13]		
unsupervised resistance	na	na	na	0	0	0.89 [0.69; 1.14]		
vs. supervised resistance									
unsupervised aerobic	0	0	1.11 [0.72; 1.72]	1	0.56	1.02 [0.87; 1.19]		
unsupervised resistance	na	na	na	0	0	0.94 [0.73; 1.20]		
vs. unsupervised aerobic									
unsupervised resistance	na	na	na	0	0	0.92 [0.76; 1.12]		
vs. flexibility training						_			
no exercise	na	na	na	0	0	0.99 [0.88; 1.13]		
supervised aerobic	na	na	na	1	0.37	1.00 [0.89; 1.13]		
supervised resistance	na	na	na	1	0.44	0.95 [0.85; 1.06]		

NOTE: NA: not available; prop: direct evidence proportion; NMA: network meta-analysis; HDL:

high-density lipoprotein cholesterol

Appendix 6Absolute effect estimates of different exercise modalities using no exercise as baseline risk

	Composisons	Number of studies and patients from direct evidence	RoM [95%CI]	Absolute effect estimates Difference (95CI)		Ranking	
Outcomes	Comparisons (vs. No exercise)						
	Combined	Direct evidence: 3 RCTs 443 Patients	0.93 (0.92,0.94)	6.98	7.51		
				0.53 Lower (0.60 Lower to 0.45 Lower)		0.99	
		Direct evidence:11 RCTs 802 Patients	0.96 (0.94,0.97)	7.21	7.51		
	Supervised aerobic			0.30 lower (0.45 Lower to 0.23 Lower)		0.78	
	Linguageigad	Direct evidence: 2	1.03 (1.00,1.07)	7.74	7.51		
HbA1c (%)	Unsupervised aerobic	RCTs, 135 Patients			0.23 Higher (0 Lower to 0.53 Higher)		
110A1C (70)	G 1	D: 4 -:1 - 5	0.96 (0.95,0.98)	7.21	7.51		
	Supervised resistance	Direct evidence: 5 RCTs, 413 Patients		0.30 Lower (0.38 Lower to 0.15 Lower)		0.70	
		Direct evidence: 2 RCTs, 48 Patients	1.03 (0.99,1.07)	7.74	7.51		
	Unsupervised resistance			0.23 Higher (0.08 Lower to 0.53 Higher)		0.23	
	Flexibility training	No direct evidence, indirect evidence only	0.92 (0.86,0.98)	6.91 7.51		0.18	
				0.60 Lower (1.05 Lower to 0.15 Lower)			
	Combined	Direct evidence: 1 RCTs 36 Patients	0.93 (0.82, 1.07)	124 134		0.71	
				9.38 Lower (24.12 Lower to 9.38 Higher)			
	Supervised aerobic	Direct evidence: 5 RCTs 253 Patients	0.93 (0.88,0.98)	124	134		
				9,38 Lower (16.08 Lower to 2.68 Lower)		0.82	
	Unsupervised aerobic	No direct evidence, indirect evidence only	1.11 (0.81,1.52)	148.74	134		
				14.74 Higher (25.46 Lower to 69.68 Higher)		0.19	
FBG (mg/dl)	Supervised Direct evi resistance RCTs, 50	D: 4 -:1 2	1.01 (0.92,1.12)	135.34 134		0.32	
		RCTs, 50 Patients		1.34 Higher (10.72 Lower to 16.08 Higher)			
	Unsupervised resistance No direct evidence, indirect evidence only			138.02	134		
		1.03 (0.72,1.47)	4.02 Higher (37.52 Lower to 62.98 Higher)		0.44		
	Anaerobic No direct evidence, indirect evidence only	0.95 (0.88,1.03)	127.30	134			
				6.08 Lower to 4.02 igher)	0.64		

		D:	0.04	78.68	83.70	
	Combined	Direct evidence: 2 RCTs 77 Patients	0.94 (0.89,0.99)	5.02 Lower (9.21 Lower to 0.84 Lower)		0.86
	G 1	Direct evidence:6 RCTs 211 Patients	0.00		83.70	
	Supervised aerobic		0.98 (0.95,1.01)	1.67 Lower (4.19 Lower to 0.84 Higher)		0.48
	TT 1	Direct evidence: 1 RCTs, 75 Patients	1.04 (1.00,1.09)	87.05	83.70	
Weight (kg)	Unsupervised aerobic			3.35 Higher (0 Lower to 7.53 Higher)		0.01
weight (kg)	C	Direct evidence: 3	0.98 (0.95,1.02)	82.03	83.70	
	Supervised resistance	RCTs, 90 Patients		1.67 Lower (4.19 Lower to 1.67 Higher)		0.47
	11 1	Direct evidence: 1	0.97 (0.91,1.03)	81.19	83.70	
	Unsupervised resistance	RCTs, 28 Patients		2.51 Lower (7.53 Lower to 2.51 Lower)		0.61
		No direct evidence, indirect evidence only	0.94 (0.86,1.02)	78.68	83.70	
	Anaerobic			5.02 Lower (11.72 Lower to 1.67 Lower)		0.82
	Combined	Direct evidence: 2 RCTs 186 Patients	0.97 (0.93,1.01)	126.10	130	
				3.90 Lower (9.10 Lower to 1.30 Higher)		0.59
	Supervised Direct evidence: 6 aerobic RCTs 365 Patients			126.10	130	
		0.97 (0.95,1.00)	3.90 Lower (6.50 Lower to 0 Higher)		0.48	
			0.97 (0.93,1.01)	126.10	130	
	Unsupervised aerobic	Direct evidence: 2 RCTs, 95 Patients		3.90 Lower (9.10 Lower to 1.30 Higher)		0.58
SBP (mmHg)			0.96 (0.93,0.99)	124.80 130		0.69
	Supervised resistance	Direct evidence: 3 RCTs, 60 Patients		5.20 Lower (9.10 Lower to 1.30 Lower)		
	NT 12 / 11		123.50	130		
	Unsupervised resistance		0.95 (0.87,1.04)	6.50 Lower (16.90 Lower to 5.20 Higher)		0.69
	Anaerobic No direct evidence, indirect evidence only	NI_ 4: 4 -: 1		128.70	130	
		0.99 (0.90,1.08)	1.30 Lower (13.00 Lower to 10.40 Higher)		0.37	
DBP (mmHg)	Combined	Direct evidence: 2	0.99	79.20	80	0.4

		RCTs 165 Patients	(0.94,1.04)		:.80 Lower to 3.20 igher)	
	Supervised aerobic	Direct evidence: 6 RCTs 370 Patients	0.97 (0.94,1.00)		(4.80 Lower to 0 igher)	0.65
	Unsupervised aerobic	Direct evidence: 2 RCTs, 95 Patients	0.94 (0.89,1.00)		80 (8.80 Lower to 0 igher)	0.85
	Supervised resistance	Direct evidence: 3 RCTs, 164 Patients	0.97 (0.93,1.00)		80 (5.60 Lower to 0 ower)	0.67
	Unsupervised resistance	No direct evidence, indirect evidence only	0.97 (0.86,1.09)		80 1.20 Lower to 7.20 igher)	0.57
	Anaerobic	No direct evidence, indirect evidence only	1.04 (0.96,1.13)		80 3.00 Lower to 10.40 igher)	0.1
	Combined	Direct evidence: 2 RCTs 74 Patients	1.03 (0.97,1.08)		184 .52 Lower to 14.72 igher)	0.06
TC (mg/dl)	Supervised aerobic	Direct evidence: 4 RCTs 203 Patients	0.89 (0.85,0.94)		184 7.60 Lower to 11.04 ower)	0.84
	Unsupervised aerobic	Direct evidence: 2 RCTs, 95 Patients	0.96 (0.90,1.02)	176.64 184 7.36 Lower (18.40 Lower to 3.68 Higher)		0.47
	Supervised resistance	Direct evidence: 1 RCTs, 20 Patients	0.88 (0.83,0.94)	161.92 184 22.08 Lower (31.28 Lower to 11.04 Lower)		0.92
	Flexibility training	No direct evidence, indirect evidence only	0.95 (0.86,1.05)		184 5.76 Lower to 9.20 igher)	0.51
TG (mg/dl)	Combined	Direct evidence: 4 RCTs 328 Patients	0.75 (0.67,0.84)		9.10 Lower to 23.81 ower)	1
	Supervised	Direct evidence: 6	0.87	129.46	184	0.63

	aerobic	RCTs 453 Patients	(0.80,0.96)	19.34 Lower (29.76 Lower to 5.95 Lower)			
	Unsupervised aerobic	Direct evidence: 2 RCTs, 95 Patients	0.95 (0.86.1.05)	,	184 0.83 Lower to 7.44 igher)	0.25	
	Supervised resistance	Direct evidence: 3 RCTs, 270 Patients	0.89 (0.81,0.97)		184 8.27 Lower to 4.46 ower)	0.58	
	a 1: 1	Direct evidence: 3	0.92	99.36	108	0.50	
	Combined	RCTs 201 Patients	(0.81,1.05)	8.64 Lower (20.52 Lower to 5.40 Higher)		0.59	
	Supervised	Direct evidence: 5 RCTs 330 Patients	0.89 (0.80,0.99)	96.12	108		
	aerobic			11.88 Lower (21.60 Lower to 1.08Lower)		0.75	
	1 1	Direct evidence: 1	1.08 (0.88,1.33)	116.64	108		
		RCTs, 75 Patients		8.64 Higher (12.96 Lower to 35.64 Higher)		0.18	
	Supervised Direct evidence: 1 RCTs, 123 Patients			95.04	108		
LDL (mg/dl)		0.88 (0.76,1.01)	12.96 Lower (25.92 Lower to 1.08 Higher)		0.79		
			1.12 (0.81,1.56)	120.96	108		
	Unupervised resistance			12.96 Higher(20.52 Lower to 60.48 Higher)		0.17	
			96.12	6.12 108			
	Flexibility training	No direct evidence, indirect evidence only	0.89 (0.71,1.10)	11.88 Lower (21.32 Lower to 10.80 Higher)		0.71	
		Direct evidence: 3	0.97 (0.94,1.00)	44.43	45.80		
HDL (mg/dl)		RCTs 201 Patients		1.37 Lower (2.75 Lower to 0.00 Lower)		0.19	
	Supervised Direct evidence: RCTs 330 Patier	Direct avidence: 5	0.92	40.76	43.97		
		RCTs 330 Patients	(0.89,0.96)	3.66 Lower (5.04 Lower to 1.83 Lower)		0.60	
	Unsupervised Direct evidence: 2 aerobic RCTs, 95 Patients	0.99 (0.87,1.12)	45.34 45.80				
			0.46 Higher (5.95 Lower to 5.50 Higher)		0.44		
	Supervised	Direct evidence: 2	0.90	38.93	43.05	0.74	

resistance	RCTs, 143 Patients	(0.85,0.94)	4.58 Lower (6.87 Lower to 2.75 Lower)		
I In gum am visa d	No direct evidence,	0.91	41.68	45.80	
Unsupervised resistance	indirect evidence only	(0.71,1.17)	4.12 Higher(13.28 Lower to 7.79 Higher)		0.72
			44.88	45.80	
Flexibility training	No direct evidence, indirect evidence only	0.98 (0.86,1.13)	0.92 Lower (6.41 Lower to 5.95 Higher)		0.47